THE
ARCHITECTURAL MAGAZINE,
AND
JOURNAL
OF IMPROVEMENT IN
ARCHITECTURE, BUILDING, AND FURNISHING,
AND IN THE VARIOUS ARTS AND TRADES
CONNECTED THEREWITH.

CONDUCTED BY J. C. LOUDON, F.L.S. G.S. &c.
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AND FURNITURE.

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PREFACE.

We have been induced to commence an *Architectural Magazine*, from the beneficial influence which, we are informed, has attended the publication of our *Encyclopædia of Cottage, Farm, and Villa Architecture*. One of the highest gratifications we have received, since we commenced author, is to know that that work is gradually effecting a reformation in the construction of cottage dwellings and farm buildings, not only throughout Britain and Ireland, but in America and Australia. The object of the *Architectural Magazine* is to second the effect produced by the *Encyclopædia*, by improving the public taste in architecture generally, by rendering it a more intellectual profession, by recommending it as a fit study for ladies, and by inducing young architects to read, write, and think, as well as to see and draw.

In this Volume will be found a series of papers by the Conductor, the object of which is to popularise the subject of architecture as a matter of taste; and there are also several able papers, written with the same view, by Mr. Trotman, and other professed architects. This we consider to be the first step towards rendering architecture a fit study for general readers, and especially for female ones. Our reasons for introducing such papers are grounded on the principle laid down by Alison in his *Essays on Taste*, viz. that "the most effectual method to check the empiricism either of art or science, is to multiply, as far as possible, the number of those who can observe and judge."

A second set of papers has for its object the familiarising of the general reader with what are technically called the Elements of Architectural Design. The first of these, on Classical Architecture, is by Mr. Trotman, a practical architect, well known for his eminent literary talents; and the subject has been completed by our architectural draughtsman, Mr. Robertson. Gothic Architecture, to which there has hitherto been no complete Introduction, either scientific or popular, has been kindly undertaken by Mr. Picton, at once an excellent practical architect and an able writer; and this subject will be completed in the Second Volume.

The remaining papers are all of a practical nature, and either describe and criticise public or private buildings already executed, or furnish suggestions and designs for constructions in every department of the art, including finishing and furnishing; rural and garden architecture; and engineering, as far as is necessary to connect architecture with that science. The reader will find the various subjects treated on, both in the Original Communications and in the Reviews, systematically arranged in the Table of Contents.

In the Review Department we have given some account of the more important English, French, and German Works which have been published in the course of the year; and our Catalogue includes the titles, as far as we have been able to obtain them, of all the Architectural Works which have been published in Europe and America during the same period.

In the Miscellaneous Department will be found various opinions by different writers, and a variety of news, accompanied by criticisms, respecting architectural improvements going on in every part of the world, but more particularly in Britain.

For our forthcoming Numbers we have some valuable papers in hand; and we are kindly promised, by Mr. Lamb, a Series of Designs for Villas, in all the different varieties of the Gothic, Classical, and Italian styles.

In conclusion, we have to thank, most sincerely, those architects, both personal friends and strangers, who have kindly come forward to assist and patronise this infant periodical, the first of its kind that has been commenced in Britain: and we earnestly entreat all architects, and others connected with the building arts, who are desirous of advancing their profession; and our readers generally, who wish to promote the progress of architectural taste, and the universal diffusion of architectural comforts; to aid us by their contributions and their advice; and, in short, by every assistance in their power.

Bayswater, Nov. 20. 1834. J. C. L.

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THE

ARCHITECTURAL MAGAZINE.

MARCH, 1834.

INTRODUCTION.

THE objects which we have in view, in undertaking an Architectural Magazine, are the same that influenced us in submitting to the world our *Encyclopædia of Cottage, Farm, and Villa Architecture and Furniture;* viz., to diffuse among general readers a taste for architectural beauties and comforts, and to improve the dwellings of the great mass of society in all countries. The Architectural Magazine, however, will embrace a more extensive range of subjects than the Encyclopædia; since, in addition to the private dwellings of every class of society residing in the country, it will include also dwellings in cities and towns, and public buildings, in a word, the whole of civil architecture, building, and furnishing.

The study of the science of Architecture recommends itself to the general reader by the utility of its productions as an art, and by the pleasure afforded by the contemplation of these productions as subjects of taste. To young men engaged in the various professions and businesses connected with the art of building, this study presents a means of professional improvement, and, consequently, of advancement in the world; in it the landowner will find one of the principal means of increasing the value of his property; it will give to the retiring citizen an opportunity of forming his taste for building or choosing a cottage or villa residence; and to every individual who either occupies a house, or intends to occupy one, it will afford the means of ascertaining what is good or bad in construction and in appearance, and of choosing, repairing, altering, fitting up, and furnishing his habitation. Though all men do not build houses, yet all men in a state of civilisation live in them; and it must, therefore, be of some importance to every individual, to have his judgment in the choice of a house heightened by a knowledge of what points in its construction and arrangement will contribute most to his security, convenience, and comfort.

The subjects of Architecture admit of two grand divisions, public and private buildings: and, in all countries, the progress of the former seems to have been incomparably greater than that of the latter. Hence, though private dwelling-houses must have

existed before, or, at least, have been coeval with, public buildings, yet there can be no doubt that the architecture of the former remained stationary for ages; while that of the latter advanced with the progress of nations: and hence, in those ages when the grandest and most beautiful temples were erecting in Greece, the most sumptuous palaces in Italy, and the most magnificent cathedrals in England, there is no evidence of much improvement having been introduced into the private dwellings even of the wealthy. The reason seems to be, that, till within the last three centuries, the mode of living of all ranks of society was comparatively simple, and very much alike in all countries having similar climates. In time, however, the general introduction of manufactures and commerce led to the improvement of domestic architecture, as it did to that of other arts, by the creation of a middle class of society; by the interchange of the productions of one country for those of another; and by the improvement of the manufactures in general use in all countries. Hence improved articles of dress led to the necessity of having improved pieces of furniture to contain them; the use of sea-coal led to the improvement of fireplaces; the use of knives and forks led to improved stoves and other arrangements for cookery; and these, and an infinity of other domestic ameliorations, led gradually to the better construction of houses.

But, though the art of constructing private dwellings has made great progress in Britain within the last three centuries, yet there still remains much to be done in the application of the modern discoveries of science to domestic purposes. The most skilfully contrived villas and mansions admit of the application of still higher skill; and the cottage of the farmer and country labourer, and the street house of the tradesman and mechanic, have scarcely yet had applied to them even that which has been already attained. The want of comfort, indeed, in the dwellings of the agricultural labourers and of the mechanics of Britain, is, as compared with the quality of their clothing and food, greater than is to be found in the dwellings of the working classes of any other country in Europe. To be convinced of this, we have only to compare the coarse brown bread and rough woollen and hempen cloth of the peasantry of the North of Europe, with their warm log houses; or the slight diet and clothing of the peasantry of Italy and the South of France, with the open airy shelters, which, in those fine climates, afford sufficient protection, and a degree of comfort suitable to the state of the occupant. In both these cases, the food, the clothing, and the dwelling are in some sort of harmony; but, when we compare the clothing of broadcloth, cottons, and muslins, and the wheaten bread and butcher's meat of the English mechanic or country labourer, with his dwelling, not so impervious to the weather as

that of the rudely clothed and coarsely fed Russian or Swede, and often not larger or more convenient, the inconsistency is glaring. — But we have already said so much on this subject in our Encyclopædia, that we shall not enlarge upon it here.

To those whose prosperity or fortune enables them to occupy what are considered good houses, either in town or country, some knowledge of the science and practice of Architecture would be not only a source of perpetual enjoyment, but of real use; because every accession to our knowledge gives power as well as pleasure. We do not merely allude to the preeminence which a taste for Architecture must necessarily give to every possessor of it; but also to the value of Architecture as a useful art; or, in other words, to the power of applying its principles to buildings and furniture. It may be said, indeed, that individuals so circumstanced as to be able to have handsome dwellings, can always command the services of professional men to give them advice in the choice or furnishing of a house. We allow this; and we add, that, if the general knowledge of Architecture which we advocate were of no other use than to impress the intended occupant of a house with the necessity of having it previously examined by a professional man, it would justify what we have asserted as to the benefits to be derived from architectural knowledge. The great advantage, however, which we propose to the general reader, as the result of a knowledge of the useful in Architecture (viz., of the arrangement, strength, lighting, warming, ventilating, fitting up, furnishing, &c., of houses) is, that he will know, better than he now does, what comforts and conveniences he is entitled to expect from the size and rent of any given house.

A taste for Architecture, like that for any of the fine arts, is at once a source of enjoyment, and a mark of refinement. As buildings are more frequently occurring to the view than either pictures or statues, this enjoyment can be proportionately more frequently obtained; and hence it would appear to be the more desirable for the possessor. It may farther be stated, that to understand and enjoy Architecture does not depend nearly so much on what is called a natural taste, as does the enjoyment of pictures, statuary, or music. Architecture is more an art of reason than of imagination; and there is hardly any great feature of beauty or deformity in a building, the propriety or absurdity of which could not be made obvious to the most ordinary understanding, even if the possessor of that understanding had paid very little attention previously to the subject. So much cannot be said of any of the other arts mentioned.

Whatever may be the advantage to the possessor of a taste for Architecture individually, the ornament, and, ultimately, the benefit, to the whole country, arising from such a taste becoming

general, would be great beyond calculation. What man, who could build his own house, and possessed any taste in this art, would be content to live in houses exhibiting such external elevations as those which at present continually meet the eye, both in town and country? Let a taste for Architecture spread generally, and our towns would soon present continuous elevations of architectural beauty, and our country residences become as celebrated for their Architecture, as they now are for their gardens and landscape scenery.

Ardently desiring such a result, one of the great objects which we have in view is the improvement, or rather the creation, of a taste for Architecture in that portion of society which occupies the best houses. This, we conceive, is to be attained in two ways: by inducing this class, and especially the female portion of it, to read and think on the subject of domestic architecture; and by cultivating a better taste in builders, carpenters, and others engaged in the practice of building, so as to induce them to erect, of their own accord, houses of a superior style. Fortunately for this last purpose, taste in an art is not necessarily connected with wealth: it may be possessed by the journeyman carpenter, mason, bricklayer, or cabinet-maker, in as high a degree as by the architect, surveyor, or learned and wealthy amateur. In all it must first exist naturally, and in all it must be improved by cultivation. Now, the cultivation of architectural taste in a man whose business is that of a carpenter or mason, and who is, consequently, familiar with architectural details, will be much easier than the cultivation of the same taste in a man of wealth, who knows no more of the practical part of building than he does of the practical part of landscape-painting, sculpture, or any other art. The great drawback in the way of the artisan has hitherto been, the want of suitable books to put him in a proper course of self-instruction. He can doubtless have access to many books treating of the five orders of Grecian architecture, and to many others containing plans and elevations of buildings; but these works can no more teach Architecture as an art of taste, than a spelling-book can teach grammar and composition.

All men born with the ordinary condition of the human faculties are naturally endowed with taste; that is, they have a predominant feeling for some one particular class of objects or pursuits: one boy has a facility in acquiring languages, another is naturally musical; and so on. Now, those feelings which have a tendency to induce the love or the pursuit of what are called the fine arts are preeminently distinguished by the term taste. This term, however, might, with equal justice, be applied to feelings having a tendency to other pursuits; such as natural history, or to any particular kind of art, trade, or commerce. There can be no doubt that many

persons evince, in very early life, a propensity for particular trades or particular pursuits; but, though this propensity is as much entitled to be called a taste as is a propensity for music, painting, or sculpture, yet, by the conventional use of language, the term is only applied with reference to these and some other arts. According to the general acceptation of terms, therefore, those arts, the exercise of which implies creations from the imagination, are alone strictly denominated the arts of taste; while those arts are termed mechanical, the exercise of which only calls into action the reasoning powers and the physical strength. Architecture is an art which, as before stated, depends more upon reason than upon imagination; and, therefore, not being purely an art of taste, but only partially so, the imaginative faculty is less required in its professors than in the professors of painting, sculpture, or music. Let no one, therefore, who can reason, or who possesses what is called good common sense, despair of acquiring a just and correct taste in Architecture.

Architecture, as a fine art, consists chiefly in the combination of forms; and, as it is difficult to conceive any human being so deficient in intellect as not to be able to put several forms together, in the general shape of a house (for house-building to man is as natural as nest-building to birds), so it is difficult to conceive a human being whose taste in Architecture might not be greatly improved.

That improvement it is one main object of this work to effect in the minds of the mechanical artisans connected with Architecture, and more especially in the minds of CARPENTERS. The carpenter has more to do with the construction of a building than any other person employed by the architect. The word signifying architect in the Greek language may, indeed, be translated carpenter. Whether a building is to be erected of brick or stone, still it is the carpenter who forms all the patterns and guides for the bricklayer or the mason to work from. Nay, even if a cottage is to be built of mud, the first step is to procure boards adapted by the carpenter for forming moulds, by which this mud is brought into the required form; or, even if the mud is heaped up with forks, as in the cob walls of Devonshire and Wiltshire, the carpenter is required to supply what are called wooden bricks, to be built into the walls, for attaching, at a future period, the internal finishings. In the interior of a house, every thing depends on the carpenter; and most things are, indeed, done by him. The floors, and the doors and windows, are almost entirely his work; and he forms mouldings for the cornices which are put up by the plasterer. If, therefore, we could improve the taste of the rising generation of carpenters, we should have no fears of operating, through them, on all the various artisans employed in the construction of houses; and,

ultimately, on the general taste of the whole community. The circulation of such works as we intend this Magazine to be will, by rendering not only professional men, but general readers, better judges of Architecture than they were before, at once contribute to the diffusion of this taste, and afford the best security for its permanency.

But, though we have singled out the carpenter as the most important artisan connected with the art of building, we are aware, also, of the powerful influence of the BRICKLAYER and the MASON. In those parts of the country where the walls of buildings are formed entirely of brick, much of their strength, and also of their durability, must depend on the BRICKLAYER. Few people purchasing houses built with brick walls are aware of the difference, in strength and durability, between a wall built throughout with sound bricks which had been for some months exposed to the air after they were burnt, and with good mortar, and a wall built with one quality of bricks for the outside, and another for the inside; or built with bricks and mortar of the best quality, but with the former hot from the kiln. In the first of the two latter cases, the wall has not the strength and durability which it appears to have; because the difference in specific gravity between the exterior bricks and the interior ones has a constant tendency to rend the whole asunder; and, in the second of these cases, the heat and absorbing power of the bricks reduce the mortar to a dry powder: so that the strength which ought to be acquired from the cohesion of the materials is wholly wanting. In modern times, when bricks cast in forms communicating to them architectural mouldings are no longer in use, the bricklayer may be said to have little direct influence in the taste of a house comparatively with the carpenter; but we are most desirous that he should acquire architectural taste, for many reasons: and chiefly because an industrious bricklayer very often becomes in time a master builder, and may often have to design houses as well as to build them.

The MASON, in all countries where stone is the principal building material, ranks next in importance to the carpenter. In Scotland there are few stonemasons, and, indeed, few artisans connected with building or cabinet-making, who have not gone through a course of architectural drawing at an evening school. In that country, the mason very frequently takes the lead of the carpenter, more especially in buildings of the humbler class; because the facings to doors and windows, the projecting stones of coins, the crowsteps on gable ends, and the ashlar work of chimney tops, all which form leading features of cottages built of stone, require no moulds or guides from the carpenter. The taste of the mason, therefore, we are particularly desirous of cultivating; because we know the extensive influence which he

has over the great mass of farm buildings, cottages, and street houses, in all those parts of the country where stone is principally used for building. Every steady industrious mason ultimately arrives at building a house for himself: if he is not ambitious of doing this, he is not worth much; and, if he is enabled to do it, he naturally takes advantage of the opportunity to display his taste, whatever it may be. If nothing farther, therefore, were attained by the cultivation of architectural taste in masons, than a single improved cottage dwelling, as an example to others, and a source of gratification to the traveller of taste, our object would be attained.

The PLASTERER, in Britain at least, was, till within the last thirty years, chiefly confined to the interior of the house; but he is now a very important artisan, having the sole employment of that material which produces such magical effects on exteriors, Roman cement. In consequence of the discovery of cements of this kind, we are now enabled to erect buildings of brick, coated over with this material, which are as handsome as those of stone, and much stronger and more durable; because the walls, with the exterior appearance of stone, have all the cohesiveness and homogeneousness of brick. By the aid of cement we are also enabled to display every kind of architectural form and ornament, in many cases, at a fifth of the expense that similar ornaments would cost if formed of either moulded bricks or of stone. Great numbers of the small houses in the suburbs of all towns are built with the savings accumulated by carpenters, bricklayers, masons, plasterers, and others connected with Architecture; and the improvement of these small buildings, through the medium of their builders, is therefore well worth attempting.

In the interior of a house, the PAINTER exercises a very considerable influence. In the higher class of houses, where different colours are employed for decorating different rooms, if the master painter be not an artist of cultivated taste, he can hardly avoid falling into error, and producing discord or monotony, instead of harmony. The painter is sometimes under the direction of the architect, and sometimes under that of the upholsterer; but he is more frequently his own master. He therefore ought to cultivate his taste, not only for the arrangement of colours, but for the choice of ornamental forms. When we consider that an ornamental house-painter has to imitate different kinds of woods and marbles; to display architectural forms and mouldings; and to imitate natural objects, such as flowers, landscapes, &c., it will appear evident, that, to excel in his profession, he must be something very superior to a mere mechanical distributer of colours. As a proof of this, some of our most eminent artists have been originally ornamental house-painters, or ornamental painters of objects connected with Architecture or domestic economy.

The trades of the GLAZIER and the PLUMBER are generally combined; because, in former times, when those subdivisions of windows which contain the glass were of lead, solder was as much required in putting in glass as putty is now. The use of stained glass is very frequently intrusted to the glazier, and we not unfrequently find it applied where it is by no means appropriate. Even if there were no point whatever of the glazier's business connected with architectural effect but this single one, it alone is sufficient to render it highly desirable that his taste should be cultivated. The business of the plumber is a most important one, especially when we consider that to him belong the distribution of water over a house, and its conveyance from the roof, the sinks, water-closets, and different other parts, underground to the main drains.

The SLATER, TILER, and THATCHER may be considered as requiring more of mechanical skill than architectural taste; but, though this may be true, as far as it respects the roofs of large houses, which are not at all, or but little displayed, yet the case is different with cottages, of which the roof, next to the chimney tops, is the most characteristic feature. A good deal of taste is required for the proper arrangement of different descriptions of tiles on a roof, and also for the putting on of thatch or reeds in a picturesque manner.

In the fittings-up of a house various artisans are engaged; but the principal one, that we have not yet mentioned, is the BELL-HANGER, who requires to be a skilful mechanic.

The finishing of large houses is generally committed to the UPHOLSTERER, who employs the CABINET-MAKER, the PAPER-HANGER, and a variety of subordinate artisans, mechanics, and tradesmen, all of whom ought to be more or less acquainted with Architecture. The journeyman cabinet-maker requires to have a considerable knowledge of the mouldings and other details of both Grecian and Gothic architecture; and the master cabinet-maker ought unquestionably to be a man of taste, and to have his mind stored with all the approved forms and ornaments of antique as well as of modern architecture, sculpture, and furniture. It is true, we do not find this to be frequently the case; but the principal reason is, the deficiency of taste in the majority of the employers of cabinet-makers. In taste, as in every thing else, the supply produced will always depend upon the demand created; and where men of wealth have neither had leisure to form their taste by reading, nor opportunity to improve it by travelling, and inspecting excellent models, how is it to be supposed that they can distinguish between the good and the bad in design? All the guide that such men have in the choice of furniture is fashion, and their ambition can only extend to having something newer than the fashion which is most prevalent at the time. There is

nothing, as Quatremère de Quincy, and Percier and Fontaine, have observed, more injurious to art, than this incessant craving after novelty. It corrupts the taste of the purchaser, and contributes to his unhappiness, by making him dissatisfied with whatever he possesses, when anything newer has become fashionable; and it corrupts the taste of the cabinet-maker, by creating an incessant demand for novelty, which no designer, unless he possesses a highly cultivated mind, and an almost unlimited stock of ideas, can long supply without degenerating into absurdity. Never, in any age or country, was this more conspicuous than it was in London during the first ten years of the present century; and, though it was checked in a slight degree by the classical publication on furniture of the late Thomas Hope, it has not altogether disappeared even at the present day. With this view of the subject, it is almost unnecessary for us to say how much we think the improvement of public taste, in regard to furniture, depends on the study of the principles of architectural design by the young cabinet-maker. It is, however, proper, in a marked manner, to state, that, with a view to the cultivation of the taste of the CABINET-MAKER, the UPHOLSTERER, the ORNAMENTAL HOUSE-PAINTER, the CARVER and GILDER, and other similar artisans connected with furnishing, we intend to pay particular attention, in this Magazine, to the principles which serve as guides in the general composition of lines and forms, whether of nature or of art. This has not hitherto been done in any publication addressed to the general reader; and, in attempting it, we think we shall be rendering very essential service to young men in every department connected with building and furnishing.

What are called the fixtures of a house, such as the stoves, grates, kitchen-ranges, ovens, &c., are supplied by the FURNISHING IRONMONGER; who, unquestionably, ought always to be a man of taste; since his articles are not only expensive, but of considerable durability. New fashions, in them, therefore, being attended with more expense than is suitable to most housekeepers, ought to be introduced with great caution. The ironmonger is also called upon to exercise his taste, skill, and judgment in warming and ventilating; and, not unfrequently, in that humble but yet very important department, the curing of smoky chimneys. Franklin and Rumford have shown how necessary it is, for this purpose, that an ironmonger should be a scientific man; and, when we consider how much the warming of rooms and the economy of cookery depend on him, he must be allowed to fill a very important department in the completion of a house. To all the different subjects to which he is obliged to turn his attention this Magazine will be directed; and more particularly to all the best modes of warming and ventilating at present in use.

The IRON-FOUNDER is chiefly to be considered as included in

the department of the ironmonger; but cast iron now enters, in many cases, so extensively into the construction of the walls and floors of houses intended to be rendered fire-proof, and, besides, the iron-founder supplies so many important parts of the furniture, both of dwelling-houses and of agricultural buildings, that many of the articles he manufactures will frequently demand our particular notice.

We have now, we believe, enumerated the principal artisans, mechanics, and tradesmen, to whose occupations we intend to direct the attention of the readers of this Magazine; and it only remains for us to give an outline of our plan of arrangement, and to state the principles to which we mean to adhere in conducting the work.

With respect to the plan of this Magazine, every Number will be arranged in three divisions: the first of these divisions will contain Original Communications; the second Reviews, including a catalogue of all the new works on civil architecture published in Europe and America; and the third, Miscellaneous Intelligence. This last division will include notices of architectural improvements (in progress or completed) in different parts of Britain and other countries; queries and answers; and retrospective criticism on whatever has appeared in this Magazine, or in our *Encyclopædia of Cottage, Farm, and Villa Architecture and Furniture*. Though we have no intention of deviating in the slightest degree from the general outline of this plan, yet we wish it to be understood that we reserve the liberty of making such changes in it as time and experience may suggest.

In the Original Communications, every subject will be treated on the supposition that the reader is in a great measure a stranger to it; and hence every technical term will be explained where it first occurs, and afterwards transferred to a Glossarial Index, which will be given at the end of each volume, for the convenience of reference. As numerous graphic illustrations will be required, they will be limited to subjects deemed to be of real utility; and they will, as far as practicable, be given on such a scale as to be available, as prototypes of working drawings, to the practical builder, cabinet-maker, and furnisher.

In the Review Department, the object will be rather to give a distinct idea of the contents of the works reviewed, than to display the talent or knowledge of the reviewer. No new books will be omitted; and, when room permits, accounts will be given of architectural works of first-rate merit, whether new or old, British or foreign, in order to impart to the reader a general idea of all the best books on Architecture which have ever been published. In the Miscellaneous Department, we shall endeavour to insert no intelligence which we have not good reason for believing to be true. Every query shall be inserted that is not

frivolous; and, under the head of Retrospective Criticism, we will allow every article which appears in the work to be critically examined, provided that no personalities are introduced, and that the criticism is never couched in offensive language.

For the execution of this plan, we rely on the cooperation of our readers generally, and more especially on that of such practical and amateur architects as take the same views of the subject as ourselves; that is to say, who are desirous of improving society generally in architectural knowledge and taste. Indeed, our object will be, in a great degree, to induce our readers to instruct one another; and for this purpose we invite all of them, and especially young architects, to become writers. There is scarcely any person who has a thorough knowledge of the art or trade which he practises, who could not write about it, if he were to try; and our experience, in the course of the nine years during which we have conducted the *Gardener's Magazine*, justifies us in asserting, that by far the most valuable contributions to practical arts and trades are likely to be made by men engaged in them; and by pupils, apprentices, and journeymen, as well as by masters. The same views are also confirmed by the success of that useful and most judiciously conducted work, the *Mechanics' Magazine*, which, directly and indirectly, has effected more for the mechanics throughout Britain than any other publication. In the course of conducting the *Gardener's Magazine*, we have seen the great advantage that journeymen gardeners have procured to themselves by becoming writers; the habits of thinking and reasoning which they have attained on subjects generally, and the power of expressing themselves with facility and accuracy in conversation, and, above all, in that most important part of every man's social duty, letter-writing. There is no more certain mode by which one man can judge of the mind of another than by his letters; and no man can write a letter who could not also write an article for a Magazine if he were to make the attempt. We invite, then, not only architects, builders, surveyors, and amateurs, but artisans, journeymen, and apprentices, of all the different arts and trades above mentioned as more immediately connected with Architecture, to become our correspondents. Let them not hesitate from any doubts as to their style; facts are what we want, and, in whatever form we receive them, they are always valuable. Independently of the endless variety of subjects suited to Original Communications, there will seldom be found a Number of this Magazine which does not contain a query that some reader may be able to answer, and also facts or reasonings, by ourselves or others, which are open to discussion under the head of Retrospective Criticism. There is probably no reader who could not communicate some news for our Miscellaneous Department; for example, of build-

ings projected, or carried into execution in his immediate neighbourhood; new articles of furniture, or modes of furnishing, which he has seen; new modes of warming and ventilating; or improvements in public roads, bridges, gates, or architectural fences. Let every reader, therefore, in this manner cooperate with us in eliciting and diffusing architectural knowledge and taste. The principal means of effecting the improvement of any class of society is by inducing its members to think, and the most ready mode of exciting thought in ourselves is by reading the thoughts of others similarly circumstanced.

Having now explained the objects of this Magazine; enumerated the different classes to whom it is addressed, and from whom we expect cooperation; having laid down our plan; and, finally, having stated the principles by which we mean to be guided in carrying that plan into execution, we shall proceed to lay before our readers such communications as have been sent us: not doubting but that, as our work becomes more generally known, and our contributors increase, every succeeding Number will be rendered more and more interesting.

ORIGINAL COMMUNICATIONS.

ART. I. *On the present State of the Professions of Architect and Surveyor, and of the Building Trade, in England.* By SCRUTATOR.

Sir,

I REJOICE that the Architect and Surveyor are at length to have a Periodical devoted to them. It is time they had, or never was such a publication so much required by the profession as at present; and I am confident that it will lead to the reformation of many abuses now existing among Architects, Surveyors, and Builders. It will tend to eradicate many false notions, and to correct many bad practices; and will, I hope, restore the profession to the station it formerly held in society. I am sorry to say that architects and surveyors do not now obtain that confidence with the public that they ought to have, and I think this confidence can only be restored by free discussion in such a periodical as you propose. We find that those classes which have periodicals devoted to them, have very greatly improved their knowledge and their respectability, and have had instilled into them an amicable understanding among themselves: for instance, witness what that excellent periodical the *Mechanics' Magazine* has done. This magazine was the principal cause of Mechanics' Institutions being formed, not only in London, but all over England, and it opened a wide field for communicating know-

ledge: it has tended to make the mechanic respected by his superiors; and has mainly contributed to make him looked upon as equal in knowledge to the aristocracy, upon whom he is gaining ground daily. In like manner, that spirited and excellent periodical the *Lancet* has tended to eradicate abuses in the medical profession; and the *Legal Observer* has done wonders even among the lawyers. If, then, these periodicals have effected so much good, it is to be hoped that yours will lead to the same results; and, if it do not, I am sure it will not be the fault of its conductor, who, I feel convinced, if he meets with support, will grapple with and expose the abuses of the profession; as well as exert himself "to improve and extend architectural taste and knowledge." If my humble exertions can be of any benefit, they are at your service; and, on the supposition that they will be acceptable, I will at once make a few remarks that are deserving of the serious attention of the members of the profession.

The first thing I shall notice is that disgraceful mode of giving evidence in courts of justice, which has made the very name of a surveyor a laughing-stock for the legal profession; his evidence in a court of law is looked upon in the same light as that of a horse-jockey in a horse cause; and can we be surprised at it, when similar evidence to the following is constantly given?

Plaintiff A and defendant B are at issue upon an account for works executed. The witnesses of A state that the work is done in a very superior manner: one witness swears that the work is fairly worth 1544*l.*; and another witness, to support him, swears the fair value is 1630*l.* Then come the defendant's witnesses, who state that the work is very badly executed, and done in a very improper manner: one of them asserts that the outside value of the plaintiff's work is 930*l.*, and another surveyor says he makes the value 935*l.* Now, what are the judge and jury, who know no more about a building account than a boy of seven years old, to do in such a case? They are surprised and astonished that respectable men can be so very wide in their values; and what is the result? Why, they take the several amounts as given in evidence, add them together, and divide the amount by the number of witnesses: accordingly, the result in the above case would be, that a verdict would be given for 1257*l.* Now, let architects and surveyors reflect upon this disgraceful mode of giving evidence (and they know too well that what I have stated is pretty near the truth), and ask themselves whether it is not time that something should be done to redeem the character of their profession?

Again, do we not find it frequently the case, that gentlemen have such an antipathy to the name of a surveyor, that, if the builder were to mention to his employer that he was about to engage a surveyor to measure the works executed, he would

immediately give offence; consequently, the builder is obliged to introduce the surveyor into the building by stealth. Nor can any one be surprised at it, when we witness the extortionate charges made by some surveyors, whom I shall here style *custom* surveyors. This is the manner in which they proceed: two surveyors meet to make out an account of certain works done. We will suppose the account that they have to settle is a plumber's bill. The first article is 18 cwt. of milled lead: the plumber's surveyor requires 25*s.* per cwt.; the surveyor for the opposite party remonstrates, and points out to him that the prime cost was 15*s.*; the other replies that 25*s.* is the customary price, and that he cannot take less. To convince his opponent, he opens an old measuring-book, and shows that 25*s.* has been charged in an account that he settled on behalf of Mr. Getall with Mr. Easy the surveyor, some years before; and he again repeats that it is the *custom* to charge 25*s.*, and that he cannot deviate from it. In the same way; he charges 1*s.* per foot for pipe that only cost 4*d.*, and 1*s.* per lb. for solder that only cost 5*d.*; and so he goes on in the same ratio with all other articles in the bill. After charging so extortionately for the time and materials for making a joint to a pipe, he has the conscience to ask, in addition, 2*s.* 6*d.* for that joint, though he cannot tell why he does so, except that it is the *custom*, &c. The consequence of all this is, that the surveyor for the opposite party, if he have any conscience, cannot settle the account, and it is referred to the lawyers; it is then carried into a court of justice, where it is decided in a similar manner to that which I have before described.

Can it be a matter of surprise that there should be so little measuring, when the charges are made out in the way I have stated? As a remedy, I would recommend every person intending to build to have the work done by contract. I would contract even for a dog-kennel, until these *custom* surveyors are brought to their senses. This, I think, they soon will be; for, in consequence of the manner of proceeding which I have described, they are employed less and less every day.

Another great error, in valuing builders' work, is, that the surveyors too frequently charge but one price, whether the work be done well or ill, and that they pay no regard to the prime cost, or to the mode of payment. The latter ought to be taken into serious consideration; for, if the work be paid for as it proceeds, it will enable the builder to purchase his materials with cash, and thus generally 10 per cent cheaper in the market, than if he had to obtain them on credit. On the other hand, if the work be not paid for till some time after it is finished, a considerable increase ought to be allowed, for the disadvantages of being obliged to purchase on credit, and for the use of the ready money necessarily laid out in workmen's wages. Something, also,

should be allowed for risk, as builders are liable to have bad debts as well as other tradesmen.

Having said thus much respecting surveyors, I will now allude to one or two abuses that have lately been introduced among architects. It is now the fashion among some of the principal architects, not to allow the builder to employ a surveyor to measure his work, but to insist upon the builder leaving it entirely to the architect's clerk, or to a surveyor named by him. Every practical surveyor must at once see the evil consequences of this mode of proceeding; because he must know, that, even with the greatest caution, and with the utmost rectitude of intention, mistakes will creep in, if only one surveyor is employed: even the simple circumstance of omitting to double or treble a dimension, may make some hundreds of pounds' difference. It is this species of error that causes so great a difference in estimates for work to be performed: and frequently have I known this to be the case. I recollect certain estimates that were made for building a church, and the difference was very great between the two lowest; the parties compared books, and it was discovered that in the lowest the amount of the gallery had not been doubled: every other part was taken by both parties as accurately as could be required. What is most disgraceful in the modern practice alluded to is, that the architect's clerk or surveyor frequently charges the builder a commission for measuring; or, what is equally bad, he gets the tradesman to repair or paint his house, or to execute some other job, which the latter is obliged to do to keep himself in favour; the architect, at the same time, not forgetting to charge his employer with his commission for measuring.

Another disgraceful practice, which is either owing to ignorance or knavery, is, that some architects deceive their employers, by making very pretty and attractive drawings, and reporting that the expense of carrying these into execution will be about half or two thirds of what it actually turns out to be. In this way they obtain the sanction of their employer to commence building; and when the accounts are sent in, the employer finds himself involved too frequently in ruinous expenses. The builder, in such cases, often gets into disgrace, and is either obliged to commence an action to obtain his rights (because the architect has the knavery, in order to screen his ignorance, to say that the builder's bill is a most exorbitant one), or to have his bill cut down so low, that he is left a loser instead of a gainer, after labouring hard for 12 or 18 months. To remedy this evil, I would advise the parties intending to build, to contract with the architect for his commission, as well as with the builder for his work. This might be done in the following manner:—If the architect reports that the building will amount to 2000*l.*, his

commission should be fixed at 100*l.*; and if the work exceed five per cent beyond his report, it should be arranged that there should be a deduction, from his commission, of five per cent on the excess of the amount beyond the original estimate. Thus, if the original estimate were 2000*l.*, and the actual cost 2500*l.*, the commission of the architect, instead of being 125*l.* as it would be by the present *custom*, would be only 75*l.*; whereas, had the amount been within 2100*l.*, his commission would have been 100*l.* By thus reducing the architect's commission, instead of increasing it, when the expense exceeds the estimate, as is now the practice, the temptation to give in false estimates would be diminished; though these estimates are likely to be often made, as long as the inducement is so strong as it is at present.

Another very paltry trick common among some architects is, their custom of exacting from the builder a commission for all works done under their direction; and, if this be refused, informing the builder that his services are no longer required.

Having said thus much, allow me to point out a mode by which, I think, these abuses might be remedied. This is simply to form a society, not for eating and drinking, or backbiting their brethren, but to make rules for the governance of the profession; to make a fair tariff of prices, according to the variation of the market; to regulate the mode of measuring; and to enquire into every abuse or infringement connected with the profession. I have no doubt that if thirty or forty respectable members of the profession would form such a society, it would very soon eradicate the numerous abuses which at present exist; and that architects and surveyors would soon regain that respect with the public which they formerly possessed. SCRUTATOR.

London, Nov. 1833.

ART. II. *On the Extent to which the elementary Forms of Classic Architecture are, from their Nature and Origin, fixed or arbitrary.* By E. TROTMAN, Esq., Architect.

THE principles and circumstances which form the basis of Classic Architecture as a decorative science, are by no means so obvious to the ordinary observer as are those which constitute the foundation of the sister arts of Painting and Sculpture. In either of the latter, the efforts of the artist are purely imitative; and he who transfers to the canvass or the marble effects the most closely resembling those of nature, supplying the deficiencies of individual models by the beauties of collective observation, becomes the most complete master of his pursuit. In the study of architecture, however, the case is otherwise; the imitation of nature is of a limited and much more systematised character; and those

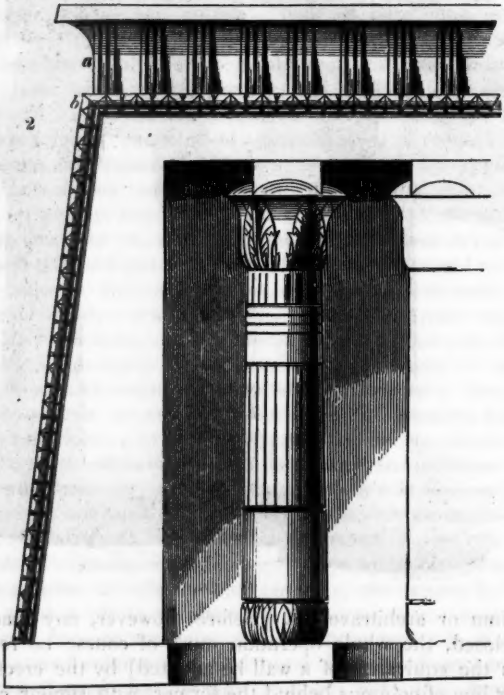
forms and combinations which are universally received, as applicable in general to the purposes of decoration, have their origin in circumstances that would seem to be involved in a degree of obscurity, which evidence no better than traditional must fail to dissipate. Yet, amidst all this apparent uncertainty, even upon matters of fundamental importance, it is curious to observe the zeal, approaching to acrimony, with which some architectural sectarians assert against each other an exclusive authority for the most minute characteristics of their own peculiar schools. The rigid admirer of Palladian taste cherishes an indifference approaching to contempt, for the delicacy of Grecian finish, and discerns in the simple beauty of Attic profiles little else than a poverty of ornament; while the professed imitator of the models of Pericles loses sight of the force and variety of Italian composition in the excess of his abhorrence for what he considers clumsy forms of moulding and enrichment — too often content to make the elegance of parts an apology for a spiritless whole. A more comprehensive and unprejudiced view of the subject would, however, suffice to show that the genuine principles of taste cannot be thus at variance with each other; and that we should have some higher authority for appeal than the dictates of fancy, or even of precedent, when we assume an exclusiveness that belongs only to mathematical demonstration, or to the palpable evidence of the senses. It may not be amiss, therefore, to enquire how far the primitive forms of architecture are the result of a demonstrable fitness of things, thereupon determining how much is left to the province of decorative taste. In pursuing such an enquiry, it will be necessary to reject, as altogether fabulous, accounts which are so opposed to the principles of analogy and historical truth as are those of Vitruvius with regard to the origin of architectural combinations; nor can we entertain much doubt as to the degree of credit which, in a subject of such remote reference, ought to be awarded to a writer who can gravely attribute the rise of human civilisation, and even the developement of the powers of speech, to the elementary agency of fire, accidentally produced by the attrition of the forest branches under the agitation of the wind. Indeed, the statement advanced by Vitruvius upon the point in question is unsatisfactory, for a twofold reason; both because he neglects to refer the characteristics of Grecian art to their undoubted source in the prototypes of Egypt, and because also he assumes a position unsupported by the principles of constructive analogy, in asserting that the forms of architecture, as embodied in stone, were derived from those which had previously and accidentally developed themselves in structures of wood. Now, to us it appears that the whole system of architecture has its origin in two great principles; first, the principle of fitness, which provides and regu-

lates its larger component members and masses; and, secondly, that of beauty, which adds to each of these the embellishment suited to its situation and office. The principle of fitness has regard to the properties of the material employed, to the purposes of the structure erected, and to the peculiarities of the climate possessed. This being the case, it is obvious, so far as the nature of the material is concerned, that the forms which would suggest themselves as appropriate to erections in woodwork are not those which would be in any degree significant, or even applicable, where stone was the material of construction; since the fibrous nature of the former substance fits it for a slight species of building, in which the bearings are long, and the points of support are few; while in the latter the work becomes necessarily massive, the bearings being short, and the points of support numerous. If, therefore, we would perceive in what manner the principle of fitness has given rise to the various members of architectural composition, we have only to refer to the remains of Egyptian monuments as the most venerable for remote antiquity; remains which, while they display the exemplars of classic taste, afford a grand picture of the power of art, when even emerging in its simplicity from primitive rudeness. Looking back through these to the first invention of column and entablature, we see the builder of the pristine temple adopting, in the construction of his ponderous supporting masses, somewhat of a cylindrical form, so that his pillars shall present no angles to impede the way; arranging them in a row, and giving them such a height as his unpractised judgment may deem calculated to afford a covering of sufficient loftiness for the area to be enclosed, having first insured their stability by giving them that expansion at the lower extremity, for which he would hardly need to seek an example from nature in the spreading root of the tree, or the widening base of the rock. In thus forming his line of columns, he finds their distances from each other necessarily limited by the length in which he may have been able to procure blocks to lie upon and connect their summits. Hence his intercolumniation becomes fixed at a lofty proportion, since his columns must rise to the height of a spacious avenue or chamber, while they remain confined as to relative distance by the nature of the material which they have to sustain. These columns being raised, he places on the head of each a cubical block, the top of which, by being left square, may afford a broader bed to the superincumbent mass, while its lower side is reduced to a circular form, correspondent to that of the shaft; and hence a simple capital. (*fig.* 1. *a.*) This done, he proceeds to connect the top of each to that of its neighbour by a series of blocks laid horizontally, of a depth and thickness nearly equal to the upper substance of the columns, forming thus his

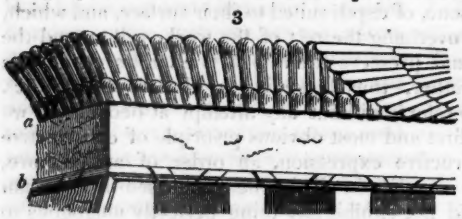
epistylium or architrave (*b*). Before, however, any space can be enclosed, the whole operation must of course be repeated (unless the equivalent of a wall be adopted) by the erection of another line of columns behind the former, with similar capitals and epistylia; and the only part of the task then remaining is, to form a covering across from one line to the other, by means of large slabs of stone, of depth suited to their surface, and which, being allowed to overhang the rest of the work, will extend the area of shelter, and preserve the rest of the masonry from the effects of the weather, thus becoming a kind of cornice (*c*). In these parts, therefore, without any attempt at decoration, we obtain, upon the first and most obvious principle of constructive fitness and constructive expression, an order of architecture, rude, indeed, but complete in all the members used in Egyptian practice, which did not exhibit any thing perfectly analogous to the remaining portion of the Greek entablature, the frieze.

The introduction thus of the primitive masses was soon suc-

ceeded by the invention of mouldings, which constitute geometrical decorations of the simplest of all kinds, and are the exclusive property of architecture. These, in Egyptian works, first appear in the form of the great hollow which cornices were made to assume (*a*, in *figs.* 2. and 3.); and in that of the large



reed (*b*) which circumscribes whole compartments of columnar composition; besides others less important in the embellishments of the columns themselves; in all of which applications of moulding it is meanwhile to be observed that the absence alike of variety and of minuteness was in strict accordance with the character of the primitive members, few and bold, and with the simplicity appropriate to the earliest works of art.



It may also be worthy of a passing remark, that the architecture of Egypt, under this form, offers a powerful, though doubtless an accidental, illustration of local as well as of constructive fitness. Placed upon far-extended plains, spotted with palm trees, but diversified by no playfulness of natural scenery, there was, in the stern simplicity of its gigantic temples, a sullen grandeur well fitted to their situation, and which seemed to bespeak them the offspring of the soil on which they rested; while the absence of all minutiæ of moulding rendered even their details conspicuous and effective at almost the greatest distance at which the eye could comprehend the mass. The adaptation to locality in these instances is the same, though developed by an opposite process, as that which makes the remains of pointed architecture, in our own country, to stand in such beautiful harmony with the variety and grouping of nature.

It will be obvious, then, how naturally an advance, even to this limited extent of architectural skill, in the adoption of simple forms, decorated by equally simple mouldings, would stand associated with that degree of mental culture which can appreciate the beautiful and the sublime in nature; and which seeks, first, by the ready vehicle of oral tradition and the language of poetry, and afterwards by the aid of the imitative arts of sculpture and painting, to perpetuate the images of those objects which excite the feelings or gratify the eye. Such an opportunity, therefore, as that which the rise of architecture afforded for the exercise of the chisel, and even for the incorporation of its performances with itself, was not to be lost; and hence it was that the subjects of nature, and particularly the products of the vegetable world, were soon laid under contribution to the purposes of decorative taste. That the summit of the column should be the first object to tempt the sculptor to the display of his powers in the execution of foliage and enrichment, was to be expected from its elevated importance, its conspicuousness, and its security from the reach of injury; and, accordingly, this part, under the character of the capital, speedily became distinguished for gracefulness of form and elaborate elegance of design, derived chiefly from imitations of the palm leaf (*figs.* 4, 5, 6.) and lotus flower. (*fig.* 7.) The idea of analogy between the top of a column and the blossoming summit of a tree being thus suggested, the fancied resemblance was shortly carried much farther; and hence, in many instances, the column now assumed the appearance of an assemblage of reeds banded together (*figs.* 2. and 8.),

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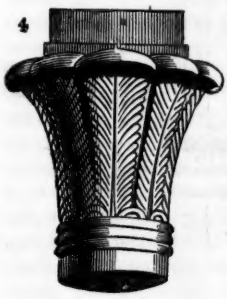
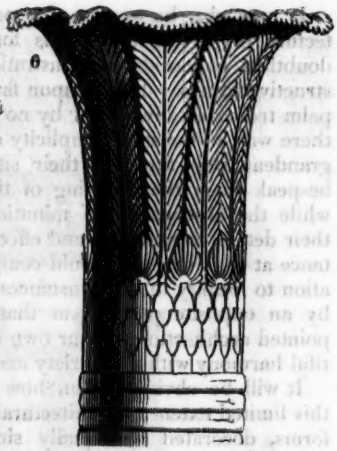
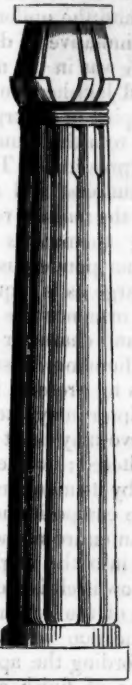




or sprang from the midst of a bed of leaves (*fig.* 2.), as an ornamental base. The reed, too, in a parallel arrangement of several

pieces, formed a frequent feature of decoration in cornices, being disposed of vertically at short intervals. (See *fig.* 2.)

Thus far, therefore, we think it must be admitted that, in these two principles of constructive fitness (we might almost say constructive necessity) and decorative relief, principally derived from the imitation of nature, we have a full developement of the origin and significancy of the essential parts of early architecture. The



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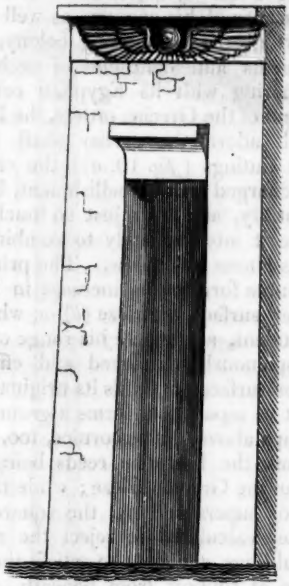

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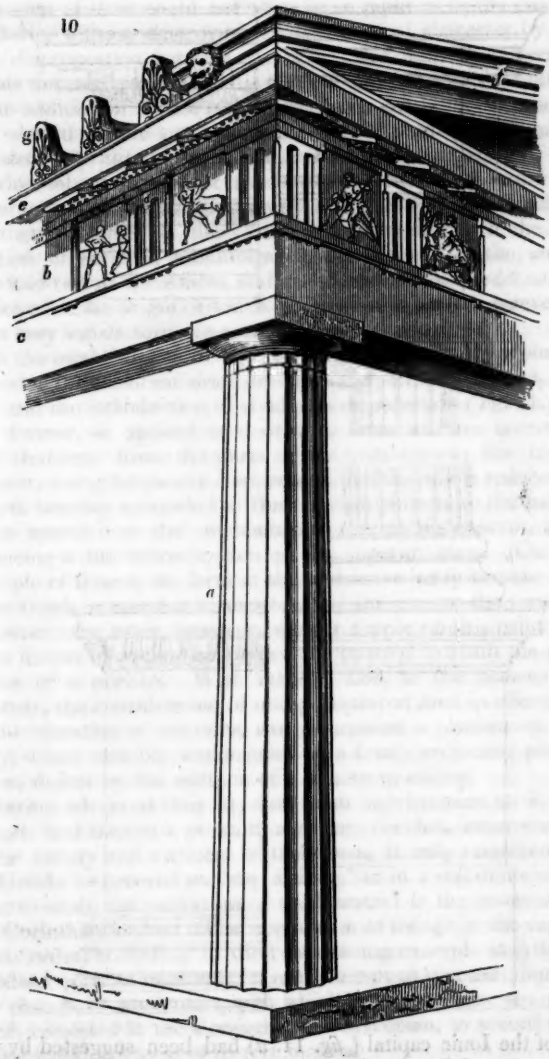
same principles will be found to extend their influence over all the minor members of composition; we shall, however, only notice, at present, that the form of apertures, as objects next in importance to the portico and the colonnade, was governed by a continued regard to fitness and utility; the upright parallelogram, or the quadrilateral opening diminishing as it ascends, being best adapted to the purposes of a doorway, from its suitableness to the admission of the human figure, and the facility with which its upper line can be formed, compared with that of more widely proportioned spaces. (*fig.* 9.) The latter reason, and

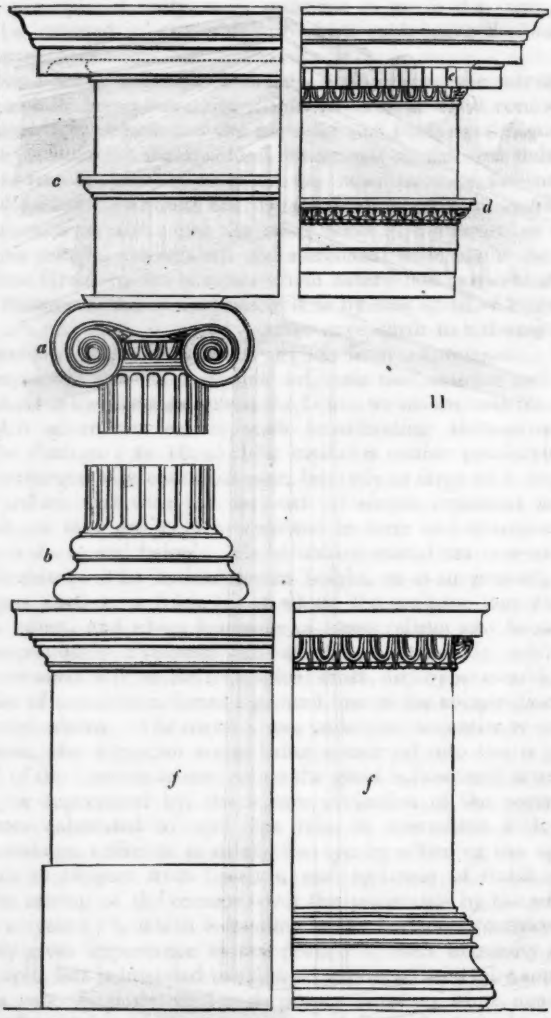
the principle of unity, were sufficient to cause the same form to be retained in the windows which subsequent architecture adopted.

But passing over minor details, and viewing the advance of art as introduced from Egypt into Greece, we shall continue to discern the operation of the same laws of fitness and decorative taste as before. Utility, thus, in answer to the demands of a more variable climate, required the substitution of the inclined roof and the pediment for the flat covering and the uniformly horizontal cornice. On the other hand, the imitative or decorative principle, nourished and stimulated as it was in the mind of the Greek by the beauties which nature had lavished on the landscapes of his country, as well as by that spirit of enterprise in art proper to a rising colony, gave birth to a thousand refinements and delicacies of architectural expression. Thus, comparing with its Egyptian originals the simplest and most ancient of the Grecian orders, the Doric, we see the massive reeds, which adorn the earlier shaft transforming themselves into light flutings (*fig.* 10. *a*); the capital is neither ponderous nor overcharged with embellishment, but only so large as is requisite for utility, and with just so much of simple ornament as may make it intermediately to combine in form and character with parts above and below. The primitive epistylium now assumes a double form by its increase in height, so as to present, in its upper surface, a frieze (*b*) on which the sculptor may exercise his talent, and where his range of basso relievo may be at once conspicuously displayed and effectively sheltered; while the lower surface (*c*) fulfils its original office, and by its moulding, or fillet of separation, forms a ground line to the compositions and groups above. The cornice, too, undergoes an entire re-modification, the Egyptian reeds being converted into the triglyphs (*d*) of the Grecian frieze; while the great hollow itself is reduced to, or superseded by, the square projection of the corona (*e*), better calculated to reject the rain, in connection with slight mouldings, sufficient to satisfy the eye by affording the appearance of support from beneath, and lightness of finish above. The raising of the cornices over the pediments by the addition of a cyma (*f*), which is wanting to the horizontal cornices, not only gives importance to the portico at each extremity of the temple, but is intended to effect a purpose of utility, by confining the water from the roof to its proper current; while, again, the antefixæ (*g*), which are seen ranged along the lateral cornices, forming so elegant a mode of termination to the raised joints of the tiling, furnish one proof, among many, that the Greeks, in common with all of after-ages, held it as an architectural axiom, based upon every supposition of constructive fitness and natural analogy, that the highest place should be occupied by the



lightest objects, the lower members being invested with that simplicity which is most characteristic of strength.

A continued regard to utility and expressive beauty governed the art in its farther advances. When so novel an invention as



that of the Ionic capital (*fig.* 11. *a*) had been suggested by the exuberance of Grecian fancy, it became evident that a subject of such comparative richness would ill accord with the massiveness of Doric proportions. Hence the length of the column to which it was to be attached became increased; and, as the

diminution of shaft could not then be so rapid as in the case of the Doric, without destroying all lightness of character by the great disproportion between the upper and lower diameters, it became necessary to supply the want of expansion at the bottom by the addition of a base (*b*), which, being composed of mouldings, should at the same time maintain a degree of elegance consistent with that of the capital. This done, the depth of the superincumbent mass must necessarily be reduced, to avoid the appearance of a tottering column; and the whole entablature was then corrected in proportion (*c*), frequently with the application of enriched mouldings (*d*), the division of the architrave into two or three faces, and the addition of dentils (*e*) to the cornice; for the origin of which last feature of detail, however, it is not easy satisfactorily to account.

To the establishment of the Doric and Ionic orders probably succeeded the use of elaborate dressings to apertures (*figs.* 12. and 13.), and the introduction of stylobates or pedestals. (*fig.* 11. *f f.*) The former, as applied to doorways, seem to have borrowed their character from the parts of the entablature; the frieze, however, being frequently compressed, and the whole reduced to a depth bearing somewhat of the same proportion to the height of the aperture as the entablature to that of the column, thus producing a due subordination to the superior mass. On the principle of fitness, the form of the architrave justly became that of the lintel, or member of support, and the cornice the member of shelter: the latter, however, viewed simply on this principle, was a matter of redundancy when it occurred beneath the protection of a portico. With respect, also, to the pedestal or stylobate, the consideration of utility displayed itself in affording, for the elevation of columns, where requisite, a platform of masonry, whose stability was insured by a firmly projecting plinth, and its shelter by the addition of a cornice moulding.

Having advanced thus far, first in an improvement on Egyptian art, and then in a great, though less decided, improvement on the variety and richness of their own, it only remained for the Greeks to proceed one step farther, but in a still diminishing ratio, to attain the perfection of the beautiful in the invention of the Corinthian order. The application of foliage in the capital of this order, according to the best existing example at Athens, is indeed such as taste may in vain attempt to surpass; but the only change, of any import, with which its introduction was associated, consisted in the elongation of the column, to accord with the increased lightness of its termination.

To this point of elevation had Grecian talent carried the detail of architecture (though without deviating from primitive simplicity in the forms of general composition to which that detail was applied), when the all-conquering hand of Rome

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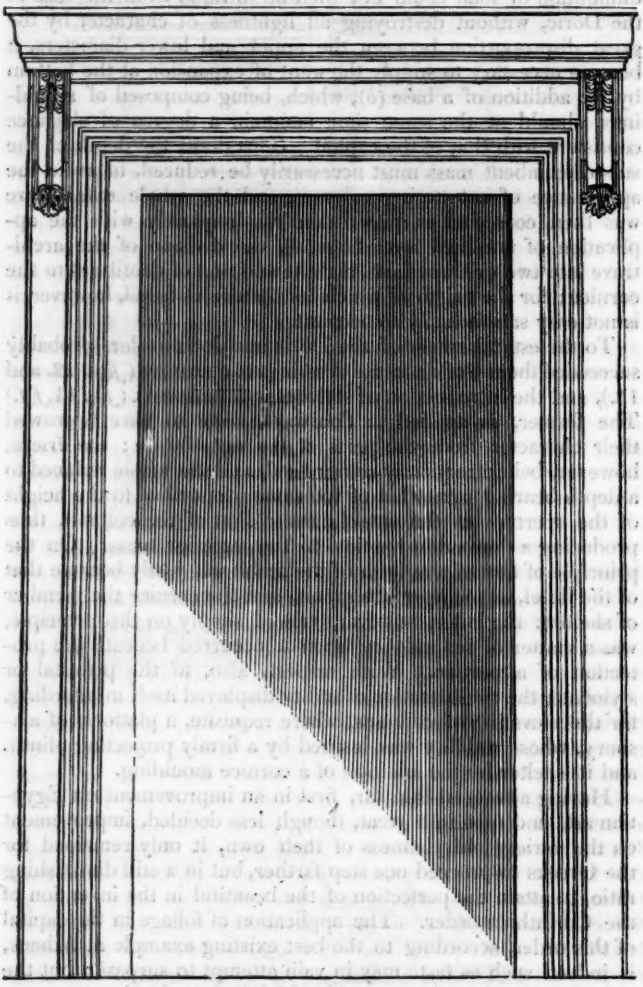

claimed the homage of the arts as well as of the arms of a world. The variations which Roman taste introduced into the system became most conspicuous in the combinations which succeeded to the discovery of the principle of the arch; a discovery not improbably suggested by the forms which masonry assumed in walls upon a curvilinear plan. In other respects those variations

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were precisely such as might have been anticipated from the character of a nation, whose martial pursuits rendered it much more susceptible of impression from the vast in composition, and the exuberant in ornament, than from the charms of simplicity and minute delicacy. Hence the preference given to the Corinthian column; hence the institution of a new order, by the blending of the Corinthian with the Ionic; hence the constant adoption of the most deeply moulded cornices for which the Greeks had left exemplars; hence the greatly increased fulness and intricacy of foliage in friezes, &c.; hence the multiplication of enriched mouldings, which supplied in dazzling show what they wanted in elegance of profile; and hence the invention of the Attic order, as, in truth, a repetition of the stylobate, for the support of statuary. (*fig.* 14. *a.*) Great as was thus the extension of the resources of composition, it was not to be expected that this insatiate pursuit after novelty of combination and richness of ornament would be uniformly favourable to true taste; and we may even be allowed to entertain a doubt whether architecture has gained much by the invention of the Composite order, which attains no increased gradation of lightness beyond the Corinthian, of which it is but an inferior modification. Certain it is, that, if the two additional Roman orders are deserving of their separate distinction beside the three of Grecian origin, nothing can be advanced more contemptibly futile and absurd than the vulgar assertion, that all the combined taste of modern times has been and must be inadequate to the production of a sixth order. To those who repeat such unfounded statements we would simply reply, that there is scarcely an old Norman doorway in any of our churches that would not furnish a capital for a new order, which should possess far more originality than can be claimed either for the Tuscan or the Composite.

Having thus arrived at that period when the architecture of the ancient world had attained its consummation of magnificence, we shall, upon a review of its progress from the earliest times,

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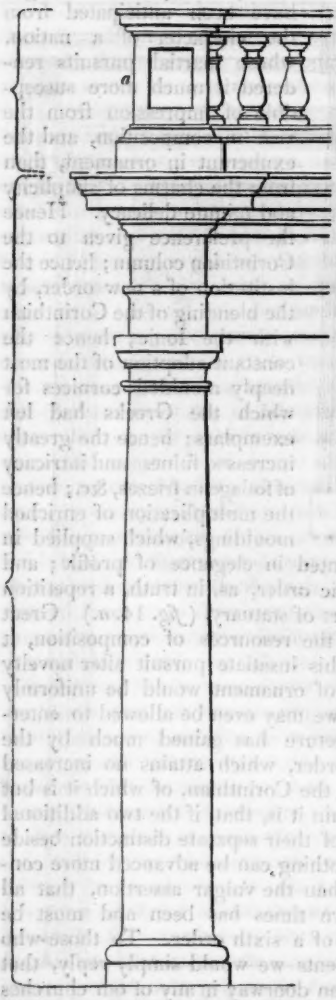


discern in all its monuments the expression of one object, that of the support of a horizontal mass of covering or entablature, by the use, first of columns, and afterwards of columns in frequent connection with arches. The support of the entablature was the end in view; the use of columns or of arches, the means by which that end was attained. Under this view of the subject, therefore, the entablature would seem to have been constituted the most important of the component masses of Architecture; and such, indeed, it is, however accustomed men may be to classify orders by a regard to the style of ornament displayed in their capitals. Thus the entablature is frequently seen to extend itself over long piles of building, which have scarcely any of columnar decoration; and it is, indeed, under a compressed form, susceptible of application altogether independently of the use of the column, though the latter can never, with propriety, stand independent of the former. Of all parts of an edifice, too, the entablature least suffers interruption, surmounting every other member of its own order, and refusing to allow even an essential mass of the structure to rise above it, without first passing across its front. It is from these circumstances, taken in connection with the effect of continuity resulting from the prevalence of quadrilateral apertures, that we shall be justified in designating all the varieties of construction which appeared in the civilised world, antecedently to the decline of the Roman empire under the general appellation of the Architecture of Horizontal Lines:

it was the work of after-ages, by the total disuse of the entablature, and the exclusive substitution for it of the arch, to introduce in the Romanesque or Norman style, and to bring to perfection in the Pointed, the other grand class of art, which connects itself with modern times, the Architecture of Perpendicular Lines.

That the architecture of horizontal lines was, by the masters of antiquity, carried to so close a proximity to perfection as to render it impossible for the taste of subsequent generations to improve upon their works, we are far from presuming to assert. True it is, however, that the Greek and Roman styles have so far excelled their early prototypes, by the appropriation and culture of all that can conduce to the harmony and completeness of their respective modes, separately considered, as to have superseded, for modern purposes, every other variety of the ancient world; insomuch that, to affect at the present time an imitation of Egyptian examples, except under very peculiar circumstances of locality and appropriation, would indicate a judgment as ill directed as his who should wish to reintroduce the rush-covered floors and wooden trenchers of our ancestors, because tired of the constant recurrence of our own carpets and dinner-services. But, idle as it would be thus to take a retrograde course in pursuit of variety, we are disposed to think that there is ample space for an opposite movement in the field of art. The Grecian school has, indeed, established for itself a style which, for the beauty appropriate to simplicity, cannot be surpassed; while the Roman works attain a picturesque splendour, more than sufficient to compensate for any want of delicacy in the detail. We may, however, well admit of a doubt, whether an earlier acquaintance with the principle of the arch would not have been productive of a wonderful addition to the variety of Greek composition; or whether the taste of the Roman might not have gained refinement, had he consulted the works of foreign talent with more of the patience of the student than of the impetuosity of the conqueror; whether, in short, the style of both might not be expected to have attained a still higher character, allowing the supposition that the patronage of Pericles had been coeval with that of Augustus, the freedom of Greece unimpaired, and national intercourse supported. The feminine grace which invests the Grecian remains, stands, indeed, in powerful contrast with the aspect of daring strength and armed glitter appropriate to the masculine form of Roman art; but characteristics as seemingly repugnant to each other have offered no obstacle to the hand of the modern master, when, with the pencil or the chisel, he would combine the dignity and beauty of opposite sexes in the figure of an angelic messenger. The remains of the Temple of Jupiter Stator at Rome, though somewhat

overladen with ornament, display a beautiful illustration of the improvement of Roman details upon Grecian principles; an effect equally observable, also, in the whole composition of the elegant temple at Tivoli: and, were we required to particularise an example of the happy result of a similar combination, we could select none superior to that afforded by Mr. Wilkins in the London University, — with regret, however, that the incomplete state of the structure should leave many of its picturesque beauties to be perceived only upon reference to copies of the original design. We are much inclined to believe that the perfection of the architecture of horizontal lines is to be sought only in this union of Greek and Roman principles; an union which, while it would put to shame some of the pseudo-Athenian works of the day, would have the effect of purifying compositions of the other class from many of those frivolities and conceits which are not of classic origin, but have their rise in the practice of the modern Italian school, whose efforts for the revival of ancient architecture, though deserving of the highest praise, are to be regarded rather as exemplifying the means of pursuit than the end to be attained.

We would not, indeed, be supposed insensible to the picturesque effect of many of the peculiarities of the Palladian school; its cushioned friezes, its rusticated cinctures, its breaks, writhings, and fantastic ornaments: but we would have these at all times confined to works that are upon a small scale, considering them as at best but architectural toys, existing by mere sufferance, but becoming offensive when they interfere with the expression, breadth, and dignity, appropriate to larger structures.

It would be very possible, did the limits of our pages permit, to extend our remarks much farther into detail. We trust, however, that enough has been urged to prove that the character of the great elementary masses of horizontal architecture is founded upon the absolute fitness of things, and not upon the dictates of caprice or accident; that the contour of mouldings, as the subordinate members of decoration, is also suggested by the same law, as expressive of their office, whether in strength of support or slighter elegance of termination; and that the filling-up of composition, by an increase in the richness and lightness of its members, as they approach the summit, proceeds upon an equally fixed rule of propriety, as well as upon that of analogy to the order of nature, from whose productions the enrichments of architecture are principally copied. Beyond these limits, however, we think that the law of a demonstrable fitness ceases to be of certain application; and that the degree of delicacy and finish which shall be bestowed upon the curvature of mouldings, or the evolutions of foliage, must be left to the dictates of individual taste, that taste being most worthy of the

name which can produce the most harmonious union of the beauties of the Greek and Roman modes.

One additional remark we would offer before we conclude, as worthy of attention, though its substance is in some degree implied in our suggestions at the outset, which is, that architecture, according to the principal and the customary use of the term, is the architecture of *masonry*, having for its first object the expression of the parts and method of construction, and, for its second, the application of appropriate ornament to those constructive parts. It follows, therefore, that the usually received forms of architecture will lose much, if not all, of their significancy, when applied to materials possessing different properties to those of stone, except when the appearance of stone is imitated to deception. We have indeed no vestiges of the style of decoration adopted by the Greeks in erections of woodwork; but we can entertain little doubt that the justice of their perceptions would have led them, under such circumstances, to employ an original mode, expressive of the capabilities of their material, and widely different to that plan of caricaturing columns and entablatures so frequently resorted to in the shop-front architecture of modern carpenters. We can, perhaps, scarcely refer to a better example of originality and feeling in the invention of a style of decoration in woodwork appropriate to the material and to the objects of application, than that which has been afforded by Sir Christopher Wren, in the stalls of St. Paul's cathedral; though the massiveness which is there displayed will by no means be essential, in ordinary cases, to the expression of fitness of purpose.

With these observations on the principles of constructive propriety, we shall take leave of that system of architecture founded upon the practice of the ancient world.

10. *Furnival's Inn, Dec.* 9. 1833. E. T.

Those of our readers who are conversant with the literature of Architecture, and who have seen Mr. Trotman's historical essay on the Tudor style of the art, in our *Encyclopædia of Cottage, Farm, and Villa Architecture and Furniture*, will, we think, agree with us in considering that essay, and the one above, as among the best which have ever been published on these two styles of architecture, and in admiring the comprehensiveness of the mind which can take such a complete and masterly view of both styles. The high literary talent of Mr. Trotman is the more remarkable, since it is very rarely found among architects who are, like him, actively engaged in the exercise of their profession. — *Cond.*

ART. III. *Instructions for choosing a Dwelling-House.* By I. J. KENT, Esq., Architect.

Sir,

THERE are few persons, whatever may be their rank in society, who have not occasion, at some period or other of their lives, to make choice of a house. Perhaps I should not be far wrong were I to say that this duty has to be performed by most men several times. How much of health, comfort, economy in living, and respectability of appearance depends on the choice made, few people, I believe, are aware; and still fewer have an idea of the seemingly trifling, and, I may almost say, invisible circumstances, on which the comfort of a house sometimes depends. Before entering on the details of my subject, I shall just mention one of the seemingly trifling circumstances alluded to.

Suppose a new house, most substantially built, and in every apparent circumstance eligible either for purchase or occupation, and that the intended occupier or purchaser has completed his bargain without examining the subsoil, and the manner in which the foundation walls are built. On the supposition that the subsoil is dry, all will be very well, and the house will turn out what it appears to be. But supposing, on the other hand, that the subsoil should be a clay, or a stratum of moist gravel, or moist soil of any kind, and that the foundation walls should have been built with spongy bricks and bad mortar, and not with good hard bricks or Roman cement; the consequence of this will be, that the kitchen and other apartments on the ground floor will appear dry and comfortable for a year, or perhaps longer; but after this, from the bottoms of the walls acting like sponges in absorbing moisture from the soil, the damp will rise up through them more and more every year, till, at last, it will reach 6 ft. or 8 ft. above the exterior surface of the ground. I could refer to a house in all other respects most substantially and judiciously built, and surrounded by dry areas as deep as the footings of the walls, but on a clayey soil, and without cement being used in the foundations, in which the damp, in the course of eight years, has risen as high as the parlour floor; and the family occupying the house are now quite surprised at finding their furniture becoming mouldy there, after having been for years without experiencing anything of the kind. This, I think, will show the importance of using cement in the foundations of all houses placed on damp soils, and of examining the foundations under the lowest floors before taking a house, to see if this has been done. I shall now proceed to my subject.

The choice of a house will in some respects depend on the size and character of the house required, the purpose for which

it is to be used, and the station in life of the party intending to occupy it. There are some things, however, common to all houses, which should be especially attended to, whether in a building intended solely for business, or in a private residence. The first points to be considered are, the nature and character of the soil on which the house is erected, and whether it is effectually drained, or is capable of being drained so as to be kept perfectly dry; for no advantages in other respects can compensate for a damp situation, both as regards health and property. A house built in a damp situation, even though the greatest care has been taken in making an artificial foundation of concrete (which has lately been done in many places), is still unwholesome; and should the materials of the foundation be of inferior quality, such as place (that is, soft half-burnt) bricks, and soft pine timber (also a common case), it will speedily decay, and be a constant and unavoidable expense. A gravelly soil is the best to build on, provided care be taken to keep out the land springs, by drains below the level of the bottom of the walls; or hard sand, if gravel cannot be found: but soft sand or clay is to be avoided if possible.

The construction of the house is a matter of serious importance to any person about to take a lease; as, by doing this, he will probably render himself liable to reinstate dilapidations, many of which may be in an incipient state when he takes possession. It is therefore quite advisable, and, indeed, is imperative on every person who is unacquainted with the nature of building, to employ a respectable architect, surveyor, or builder to examine the strength and durability of the house he is about to engage, in order to ascertain whether it is likely to remain strong and firm for a number of years. The intended tenant should also try to discover the nature of the soil, by which he will also ascertain that of the air which he will have to breathe. In low damp situations, it is well known that the air is at all times charged with a greater degree of moisture than is the case in dry open situations. A moist air suits very few constitutions, even in our humid climate, and seldom fails to bring on rheumatism, more especially in those who cannot afford to live well and take abundance of exercise.

Another important matter to be attended to, is the thorough ventilation of houses; for should the air become stagnant from want of a free ventilation, particularly in houses that have a story underground, it is highly injurious to the persons living, and particularly sleeping, in them. There should, therefore, be windows both in the back and front, and, when possible, at the sides also. From rooms in the basement story, and cellars that have neither fireplaces nor windows, there should be air-flues

carried up to the open air. Care should likewise be taken that the floor in the basement story is raised above the soil, and that air is freely admitted to circulate between the soil and the floor, whether that floor is of wood or stone. Where this is properly attended to, these low rooms may be used as sleeping-rooms; but where it is not, they are by no means fit or proper for any human being to sleep in.

Stability, light, and air are three grand desiderata in every house, and should be particularly attended to in the choice of one. The roof is a part of a house which should be carefully examined; for if it be badly constructed (too common a case with the houses built on speculation, both in London and the country), with narrow gutters, and those difficult of access, you may generally expect the wet to penetrate to the upper rooms after any heavy fall of snow or rain. Many of the best houses built in London are covered with lead: this is the best covering. The next is slate, if of good quality, and with wide lead gutters, with lead flushings (strips of lead covering joints) to them, and to those parts of the walls which are carried up higher than the slating. Zinc-covered roofs seldom keep out the wet many years; and tiles in London are now rarely used, except in very inferior houses.

In your choice of a house, having satisfied yourself that the site on which it is built is healthy; the drainage good; the roof properly constructed, and free of access, not merely for the purpose of keeping out the wet, but as a safeguard and means of escape in case of fire; the next portion of the building to examine is the substance of the walls, with the materials of which they are composed. The soft, half-burnt bricks, called place bricks by the builders, ought never to be employed in the walls of any building which it is desirable to keep dry. Whenever these bricks are found in the foundation of the party walls, the house should be rejected; and if they are seen in the outside of any of the external walls, you may expect every beating rain which falls to penetrate into them. Such walls suck in the water like a sponge, and give it out to all the interior fittings-up and finishings. Sound, hard, well-burnt bricks, called stocks, are the strongest, most durable, and best calculated to resist the weather, and to keep the inside of a house dry, provided the mortar used with them is composed of fresh-burnt stone lime and sharp road grit or sand, and is well mixed. The stock bricks absorb but little moisture, and that little is soon evaporated; whereas the place or soft bricks absorb a large quantity of moisture, and, allowing that to pass through them into the middle of the wall, are a long time wet; because the centre of a wall retains the moisture long after the surface is dry. It is particularly desirable, as I have before stated, for the wall of

houses built on clay, or on any moist soil, to have a few courses of the brickwork above the ground laid in Roman cement.

The timber used in any building should be timber of slow growth, such as the fir of cold climates (Norway or Sweden, for example), or oak. If for work under or near the ground, the oak should be of English growth; but the American oak may be used with propriety above ground. Oak is the only timber fit for joists and sleepers (joists laid on the tops of dwarf walls) next the ground, unless the soil is particularly dry, and the floor well ventilated.

The strength of the joists and other timbers, of which the several floors are composed, is another subject of importance to every one about to take a lease of a house. If these are weak, they will necessarily shake if the tenant allows his friends to enjoy the delightful recreation of dancing on them; and though the floors may not absolutely give way, yet I have known the ceiling and cornices of many modern houses, from this cause amongst others, very unceremoniously desert their posts, and pay their respects to the floor of the room they were intended to crown. This is an accident much to be deprecated, especially as it is very likely to happen (as it did at the house of a friend of mine) at a time of all others the most annoying, viz. when you have friends with you, and are in the highest spirits, little anticipating such an event. The floors in houses of the first and second class of buildings are usually pugged (filled in, between the floor of one room and the ceiling of that below it, with mortar, &c.), to destroy sound, and as a security against fire; when this is not done, it is an unpardonable omission on the part of the builder, as the expense is small, and the benefit great. All the partitions of a house should, if possible, be brick walls. At all events, no timber partitions ought to be admitted in the basement or lower story of any house, nor in any of the upper stories, except where, from the arrangement of the rooms, the partitions on the upper floors cannot be placed perpendicularly over the lower partitions; even in this case the timber partitions ought to be trussed up so as to rest their weight upon the side walls. All timber partitions should be filled in with brick nogging. If this were universally done, and the party and other walls and partitions plastered, so as to prevent all draughts of air, it would tend more to check the progress of fire than any other mode of construction: indeed, I think, if you were to make a fire on the floor of a room so constructed, it would burn itself out, without communicating with the timber partition; or, at all events, so little would be the tendency of the fire to spread (for want of a current of air), that a very moderate application of water would put it out. But where the floors are pugged with mortar, care must be taken that the timbers are well seasoned

and dried, and not taken, as is customary, even in some of our largest buildings, wet out of the Thames, sawed, and fixed, and closed up in the building in a few weeks; reeking with wet, and exuding moisture at their extremities after the weight of the superincumbent walls is put on them. The dry rot and premature decay are the frequent consequences of this careless and ignorant mode of building.

The particular character of houses in towns is, that they are many stories high, having generally one story in the basement, wholly or partially below the general surface of the ground: over this is a ground or parlour floor; a one-pair, or drawing-room, floor; a two-pair, or best bedroom, floor; and an attic floor. This is the general arrangement; but many houses have other attics, or garrets, above these in the roof. This arises from the high price of the ground in towns, and may be excusable in great thoroughfares, where shops let at a high rent; for even if the landlord were desirous of giving his tenant a wide frontage, to enable him to have two rooms in front, and some space behind, it would most likely be divided by the tenant, and underlet. A serious evil, however, arises from the great landed proprietors round London allowing the ground to be divided and subdivided by speculating builders or agents, so that there is now scarcely a house built with a yard large enough to dry a few clothes in; a garden is out of the question, except in some few instances, and those are far between. This is a subject worthy of the attention of the legislature; and some restraints should be imposed on landlords, particularly as to drainage and roads. If, before a landlord could dispose of his land for building purposes, he were compelled to engage to form the roads and footpaths next to his intended houses to the satisfaction of the parish, or some other authority; the sewers to the satisfaction of the commissioners of sewers; and to see that good and sufficient drains from every house were built; a penalty being incurred, if any house on his estate should be inhabited before an effectual drainage were formed, it would tend very much to the health and comfort of the middle class of society, and the poor especially.

The restraint imposed by the Building Act has, in the neighbourhood of London, tended much to produce a kind of house, called a fourth-rate house; and the smallest of these are built, principally for the occupation of the poor, in the suburbs of London, in inferior situations. These houses consist of two rooms; they have generally from 12 ft. to 14 ft. frontage, and are from 12 ft. to 14 ft. deep, having an access on the ground floor in front into the lower room, and steps outside at the back leading into the upper room. Three, four, or more have a yard and other conveniences in common. Dwellings of this description

are rarely properly drained or ventilated, and therefore form nurseries for the cholera and all other diseases. They are usually let at from 3*s.* to 4*s.* per week each room.

There are some houses of this class presenting a very decent appearance, and occupied by respectable tradesmen and mechanics, having about 15 ft. wide in front by 23 ft. deep, with a basement story, cellars and wash-house, a parlour floor of two small rooms, a drawing-room floor over, and two bedrooms over that, which generally let for from 25*l.* to 40*l.* a year rent, according to the number of rooms they contain, and the conveniences they afford. The back room on the two-pair floor of a house of this description is obliged, by the Building Act, to be curbed (contracted by being carried up into the roof), which spoils the room; and the gutters are frequently so narrow at the bottom of the curb, that they convey the water into, rather than off, the house.

The next class of town house, according to the Building Act, is the third-rate house, which is from about 17 ft. to 18 ft. wide in front, and from 28 ft. to 29 ft. deep. Houses of this class generally contain the same number of rooms as the largest size fourth-rate, with an attic story over in addition: this story is sometimes partly in the roof, but more generally the walls are carried up to allow the rooms to be square. At the back of the parlour floor there is frequently built a small room, used as a dressing-room or store-room. These houses have generally two windows in the width of their front.

The next class of house, the second-rate, is of a better and larger description, and frequently possesses conveniences that cause it to be occupied by the wealthy tradesman and gentleman of good fortune. It is usually 20 ft. or 30 ft. wide in front, by 30 ft. to 40 ft. deep, with additional rooms at the back. It can, and does, in many instances, contain all the apartments required by a family keeping their carriage, footmen, housekeeper, &c.; and has attached to it, or in some mews in the immediate neighbourhood, a coach-house and stable. These houses are usually built with two windows in the width of the front, but many of them have three windows in this width. The rooms are higher and better finished than in the houses of the third and fourth classes.

The first-rate class of buildings embraces all houses containing more than 900 superficial feet on the ground-floor, and includes the residences of the nobility and gentry, and the wealthiest class of professional men and merchants. Houses of this class may be said to be unrestricted as to size, either in height or width; the other classes are, by the Building Act, restricted as to dimensions in their plan, their height, and expense; though the

height and expense of a house are not now taken into consideration in deciding the rate or class to which it belongs.

A new Building Act is drawn up, and approved, which, it is expected, will pass into a law next year; and it is greatly to be hoped that in this new law the absurdities of the present act will be avoided. I. J. KENT.

Manor Place, Paddington, Nov. 16. 1833.

ART. IV. *On rendering Lath and Plaster Partitions Fireproof.* By THOMAS WILKINSON, Esq.

Sir,

IN your *Encyclopædia of Architecture*, you have suggested a very efficient mode of rendering hollow partitions solid by blowing in, if I may use the expression, powder of Roman cement and steam. It occurred to me, when I read that part of your work, that the difficulty and expense of this operation would prevent it from being generally adopted; and, having built a house of eight rooms on four stories, with a wooden staircase between, I felt not a little alarmed at the danger from fire which I was exposed to on the one hand (which I had never thought of till you pointed it out), and the trouble and expense of rendering a house fireproof on the other. After thinking on the subject for several days, and talking to my carpenter (Mr. John Brown of this place), we fortunately hit on the idea of removing the skirtings, both in the rooms and on the staircase, then filling in the space in the partition behind them with plaster, and replacing them. By this process, I have rendered my partitions what, for all practical purposes, may be considered fireproof; since, supposing the skirting-boards to take fire either on the staircase or in any of the rooms, it is evident that they could not communicate flame to the vacuity of the partition; or, supposing that, by any means whatever, the hollow part of the partitions were set fire to, it is evident the flames could not, at least for a long time, spread from one floor to another.

I assure you, Sir, that, after I perused that part of your work which treats of rendering houses fireproof, and particularly § 1790. and § 1791., I was filled with the greatest alarm, because my wooden staircase is four stories high, without an outlet to the roof, without a window communicating with a balcony, as you recommend, and with hollow lath and plaster partitions on each side; but now that I have filled in all solid behind the skirtings, I feel comparatively at ease, and though certainly not so secure as if I had solid brick partitions, yet I am confident that no fire could happen in my house that would spread so rapidly as to prevent the means of escape. Before I made this improvement,

if the lower partition had caught fire, there was nothing to hinder the flames from reaching, in a few minutes, the top of the house; the smoke and flames coming out into the staircase at the interstices of the skirtings. The idea of living in a house such as that which I at present inhabit, without taking the above precautions, is to me dreadful. You have my sincere thanks for having opened my eyes upon the subject; and I trust that I shall have yours, and, if you publish this, those of your readers, for having pointed out so cheap and easy a remedy.

I am, Sir, yours, &c.

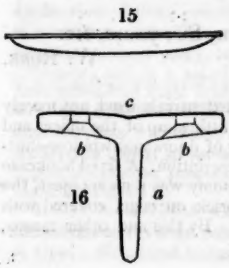
Liverpool, Sept. 1833. THOMAS WILKINSON.

CERTAIN specimens of foreign woods, received from this correspondent, will be noticed on a future occasion. — *Cond.*

ART. V. *On the Use of Slate and Cast Iron in Household Furniture.* By Mr. WILLIAM ROSE, Builder.

Sir,

As marble is now coming into very general use in the construction of furniture for the most wealthy classes, it appears to me that those fine plates of Penrhyn slate, which we see applied to so many uses in North Wales, might be substituted for marble in the furniture of the middling classes and the poor. The tops of all tables in general use might be made of slate with or without margins of wood, or of cast iron, or, in some cases, of copper. I know no better description of top for the tables of coffee-houses and public-houses of every description, than thick slabs of slate, their edges being bound round with copper or iron, or even zinc. The supports of these tables might be cast iron bronzed, such as those you have shown in different parts of your *Encyclopædia* (§ 1340, 1341, &c.); and when the slabs were very large, they might be strengthened by pieces of cast iron having flanches underneath, of one of which *fig.* 15. is a side elevation, and *fig.* 16. a section across the middle on a large scale, on which are seen the flanch *a*, and the two holes for screws (*b b*) in the flat plate, to screw it across the boards, or the slate slab of the table at *c*.



For tops of sideboards, the Penrhyn slate is particularly eligible, since it can be had in plates 10 ft. or 12 ft. long, and of equal breadth (if that breadth were desirable), and of any thickness.

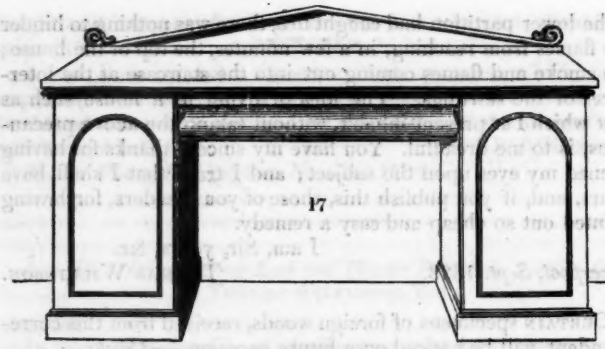


Fig. 17. is a view of a sideboard, which I had made in Bristol, of common deal, and afterwards painted so as to resemble wainscot. The top is of one slab of slate, 8 ft. long, 2½ ft. wide, and 2 in. thick. The moulding beneath it is painted of a jet black, which forms a bold contrast with the wainscot beneath, while it harmonises with the dark blue slate above. The semi-circular-headed panels in each of the pedestals are also of slate, and the mouldings which surround them are painted jet black, in imitation of ebony, like the moulding under the top. The appearance of the whole is unique. The slate cost 15*s.*, delivered at Bristol; the joiner's work, including wood, 2*l.*; and the painting 12*s.* These, I am aware, are what are called trade prices; but even if you add twenty per cent to them, you have still a very cheap, durable, and, as I think, handsome sideboard.

I have a washhand table covered with a slab of slate, 3 ft. 4 in. long, and 20 in. wide, by three fourths of an inch thick, which slab cost only 3*s.* 6*d.* Besides the first saving of painting, there is a saving of washing every day the table is used; and as to the durability of such a top, it will probably wear out several wooden frames. In having this table constructed, I made an error in not having the raised back and sides also of slate, the framework of cast iron, and a bottom shelf for foot-pans, water-jugs, &c., of very strong slate.

I am, Sir, yours, &c.

Bristol, Oct. 1833. W. Rose.

There can be no doubt that slate may be very extensively used, not merely in the commoner articles of furniture, but in the fittings-up of the offices and many of the living-rooms of houses. The panels of doors and window-shutters might be of slate; as might shelves of every description. A fixed bookcase might be formed entirely of slate; or, where economy was a main object, the styles or supports for the shelves might be of brick on edge, covered with cement, and the shelves of slate let into them. By this and other means, a library might be rendered fireproof. — *Cond.*

REVIEWS.

ART. I. *La Propriété ; Journal d'Architecture Civile et Rurale, des Beaux Arts, et d'Economie Sociale, contenant : Les meilleurs modes de conserver, d'embellir, et de faire valoir la Propriété, — Les connoissances des droits et des obligations qui y sont inhérens, — Des notions d'Economie générale et domestique, — Les renseignemens et instructions indispensables sur la législation et la compatibilité des bâtimens, — La description des découvertes, et des procédés utiles à la propriété et à l'habitation, — Un compte rendu de tous les monumens nouveaux, des grandes constructions, et des divers produits des arts, — Généralement, enfin, tout ce qui peut intéresser et ceux qui possident et ceux qui veulent posséder.* Par T. Morisot, Architecte. 4to. Paris, 1833.

WE have printed the whole of the title of this work, because we could not otherwise, in so small a space, give so complete an idea of its contents.

Architectural books in France, as in England, were, till the appearance of that of which the title is given above, almost exclusively addressed to professors, and, at all events, were very expensive. The present work is an attempt to popularise the subjects of architecture, building, and furnishing; and, to further this end, it is sold at such a low price as to place it within the reach of all classes of readers. In many respects, it may be compared to our Magazine, which has the same objects in view for English readers as *La Propriété* has for French ones. The main difference between the two publications is, that the articles in *La Propriété* seem to be chiefly compilations by the editor from other works, or translations; whereas, in our work, though we intend to have some translations and abridgments, yet the great mass of our information will be original, and furnished, not by one mind, which must necessarily soon repeat itself, but by numerous correspondents, professors, amateurs, and artisans, from all parts of the country.

In the prospectus of *La Propriété*, it is stated that "Architecture occupies less of the public attention than any other art. There are many reasons for the indifference generally displayed towards it. First, few men, however well educated they may be in other respects, know enough of the rules of this art to be able to judge correctly of its professors; and, secondly, these rules are themselves uncertain, traditional, and not united into a complete course of doctrine. The most ancient monuments of antiquity were not formed according to the rules of this art; on the contrary, it is from these monuments that those rules of art were drawn, which the masters of modern times have occupied themselves in commenting on, and which each has applied according to his own taste or genius. Thus, from the want of a fixed standard to refer to, arise the contradictory judgments which are every day passed on contemporaneous productions; and hence it is that so wide a career is open to judicious innovations, though it sometimes also admits deplorable errors."

This quotation will suffice to give our readers an idea that *La Propriété* will be conducted on liberal principles; and a very good example of the application of these principles is given in the first article of the work, which is a critique on the Palace of Deputies. The scrupulous servility with which modern architects copy, or rather reproduce, the forms of antiquity, is here criticised; and it is asked how architecture, being an inventive art, should have exhausted itself in the earliest ages of antiquity, when the wants of man were few, instead of improving and becoming more perfect as the wants of man increased and society advanced? The Romans, we are informed, imitated the Greeks chiefly in those parts of their architecture which could be suitably applied to Roman purposes; whereas we imitate every thing which is Greek indiscriminately.

It may be observed, with respect to criticisms of this kind, that in them the difference between public and private architecture ought to be kept strictly in view. We cannot be said to imitate the private architecture of the Greeks,

for, in fact, we know nothing about it; but, with respect to their public architecture, the simplicity, not only of the general forms, but of the details, appears to us to render their porticoes and large public rooms suitable for all ages and countries; fitted for great public meetings, commercial or political, alike in Calcutta or in Petersburgh.

The second article in the first number of *La Propriété* is on rural architecture; in which are some very just observations on the simplicity of style, and the thorough devotedness to utility, which ought to characterise every description of farm buildings.

The next article is on legislature with reference to buildings in Paris, and on the prices of materials and labour there; both of which subjects are, of course, of considerable local interest. The article following is headed *Economie Industrielle;* in which a scheme is mentioned for establishing a magazine for imported goods at Paris, instead of leaving that city dependent on the magazines at the sea-ports. In addition to this, there are short notices of territorial property expected soon to be exposed for sale; and of certain proposed improvements in the suburbs of Paris. The next article is entitled Miscellaneous, and is followed by notices of change of residence of persons in businesses connected with architecture, the establishment of companies, &c.

This is the general arrangement of all the weekly parts of *La Propriété;* and every alternate part has commonly a 4to lithographic plate. On the whole, we are much pleased with the work; and, though it will be of no great use to English readers, we can easily conceive that the good it will do in France must be considerable.

ART. II. *Catalogue of Works on Architecture, Building, and Furnishing, and on the Arts more immediately connected therewith, recently published, commencing with the year* 1834.

BRITAIN.

1. *Godwin*'s Domestic Architecture. Part II. London, 1834. 4to. 2*l.* 12*s.* 6*d.*
2. *Trendall*'s Designs for interior Finishings. London, 1834. 4to. 15*s.*
3. *Blackburne*'s Architectural and Historical Account of Crosby Place. London, 1834. 4to. 8*s.* 6*d.*
4. *Shaw*'s Specimens of Ancient English Furniture. Part V. London, 1834. 4to. 5*s.*
5. *Dodwell*'s Cyclopean or Pelasgic Remains in Greece and Italy. London, 1834. folio. 6*l.* 16*s.* 6*d.*
6. *Inwood*'s Studies of the Architect from Nature. London, 1834. In 4to parts.

FRANCE.

Rochette: Monumens inédits d'Antiquité figurés, Grecque, Etrusque, et Romaine, recueillis pendant un Voyage en Italie et en Sicile, dans les années 1826 et 1827. Par M. Raoul Rochette. fol. 5e et 6e Liv. 2*l.* 2*s.*

Lange: Vues Pittoresques des plus belles Eglises, &c. d' Architecture Gothique. Par Lange. Liv. I. 12*s.* plates; 16*s.* Indian, sewed.

GERMANY.

Zahn, Ornamente aller klassischen Kunst-epochen. 3tes Heft. 12*s.* 6*d.* (Zahn's Ornaments of every Class used in different Eras of the Arts, &c. Part III. 4to.)

Uagzin, Von Abbildungen der Gusswaaren aus der Königlichen Eisengiesserei zu Berlin. 8tes Heft. 8*s.* 6*d.* (Uagzin on the different Articles of Taste manufactured of Cast Iron in the Royal Foundery of Berlin. Part VIII. folio.)

NORTH AMERICA.

The Modern Builder's Guide. By Manual Lafevre. New York. fol.

Art. III. *Literary Notices.*

Illustrations of Christ Church, Hampshire, from Drawings by B. Ferrey, jun., is in preparation by E. W. Brayley, Esq. This work will be calculated to range, in size, correctness, and elegant finishing, with the celebrated work of Mr. Britton on British Cathedrals.

A Series of Designs for Athenian or Grecian Villas, in folio, is in preparation, and will appear early in April.

A History of Architecture, by the late Thomas Hope, illustrated by numerous Engravings from Drawings by the Author, is announced.

MISCELLANEOUS INTELLIGENCE.

Art. I. *General Notices.*

Unions of Workmen are bad, as well for themselves as their masters; for, if they fix on one ratio of prices, both for the good and the bad workmen, these are placed upon one level, and no encouragement is given to the man improving himself, if he is to receive the same as the idler. Unions, also, act injuriously against the inferior workmen; for the masters will never think of employing them, so long as there is a good workman to be had: whereas, if a bad workman could sell his labour according to its worth, the master would frequently employ him upon work that does not require a very superior hand. — *W. L. London, Dec.* 1833.

Working Over-hours. — The master and workman would be very considerably benefited if they would enter into an understanding not to allow any workman to exceed working ten hours per day; for it is impossible, if any man exceed that time, that he can perform his work properly, either for the benefit of his master, or for his own health; and it prevents him having a few leisure hours in the evening for study, or to attend institutions for the improvement of his mind. Restricting men from working over-hours will also distribute the work among a larger number of men, and will prevent many of them from roving and idling about the town, scheming and doing mischief, by forming themselves into unions; and preventing the workman who is in work, and contented, from proceeding, unless he will join their union to support them in their idleness and profligacy. If any work be required to be done expeditiously, it will be advisable to employ a larger number of hands, or, if that cannot be done, to employ a double set. — *Id.*

Art. II. *Foreign Notices.*

FRANCE.

The reproach which has so long rested on England, that she is the only nation whose monuments require protection, is passing away, at least so far as France is concerned; for the Parisian government has found it necessary not only to surround the Exchange with an iron palisade, but also to defend the *ci-devant* Temple of Glory, the Madeleine, and the approaches to the Pantheon, by similar barricades. The works at the Madeleine, which, it is now decided, is to be a church instead of a temple, are advancing very fast; and it is said that M. Paul Delaroche is commissioned to execute eight large pictures for its interior. A new prison, which is to be finished in two years, is about to be erected in the Rue de la Roquette, to supply the place of the Bicêtre. Roland's statue of Napoleon, in white marble, 7 ft. high, is to be replaced in the public hall of the Institute, for which it was originally executed. Napoleon is represented as offering his crown and other decorations on an altar of Minerva. M. Lebas, the architect, first suggested the idea of restoring this statue. Railroads are forming in many different directions. M. Polonceau,

engineer of roads and bridges, has just completed his survey for the great rail-road from Paris to Bordeaux, which will have branch roads to many other places. You have, no doubt, heard of the carriages called *Les Vespasiennes*, which, in plain English, are ambulatory water-closets: they are now very popular in Paris, and a large capital is said to have been embarked in them. A mode of protecting buildings from the effects of lightning has been discovered by M. Lapostolle. He has proved, by experiment, that a jar loaded with electricity enough to kill an ox may be immediately discharged by an inch or two of straw rope. A slight pole of wood, covered with straw, and attached to a building by a strip of brass (he says) will thus serve as a conductor: and it must be allowed to be a very cheap one. Ambulatory washing machines are in great vogue among us: if you wish it, I will send you a detailed account of them in my next. The Place du Carrousel is about to be greatly enlarged by the removal of two mansions belonging to the civil list, which are now taking down. One of the halls in the Palace of Justice is being newly fitted up, in a magnificent style, with arabesques and gilding. The Parisian wits say that this is done to indulge the poor suitors with the sight of gold, their own being all swallowed up by the lawyers. Great discussion has lately taken place here respecting the obelisk of Luxor; the question being, whether it should be erected in the Place de la Concorde, according to the plan of M. Grillon, on an elegant pedestal of white marble which already adorns that Place, and which it is proposed to form into a fountain, or whether the obelisk should have a granite pedestal in the Egyptian style. Pure taste seems undoubtedly to dictate the latter; since few can conceive any harmony beween an Egyptian obelisk of dark granite and a Grecian pedestal of white marble, with a rich though minute moulding, and adorned with four Tritons, each supporting a shell from which streams a sheet of water. M. Grillon has many partisans; but does not appear likely to carry his point, as the government has given notice that other plans may be sent in. It is singular that one of the objections made to the project of this eminent architect is something similar to the objection made to the plan of an eminent architect of your country; viz., it is said that, if M. Grillon erects the obelisk as he proposes, he will shut out from the Place de la Concorde the view of the Pavilion of the Tuileries and the arch of the Barrière de l'Etoile. — *F. L. Besson. Rue de Richelieu, Paris, Dec.* 10. 1833.

Art. III. *Domestic Notices.*

A new Metallic Cement, for which a patent has been taken out, consists of powdered scoria from the copper-works, mixed with stone and lime. It sets rapidly, and takes a fine metallic polish. It is now being used by Messrs. Harrison, in a large building intended for an inn, at the south-west corner of London Bridge. This cement, unlike all other kinds except Frost's, is sold mixed up ready for use. The price is 9*d.* per bushel. If the scoria, in a state of powder, were sold by itself compressed in casks, it appears to us that it would form a very desirable cement for exportation. It may be laid on in coats as thin as the fourth of an inch; but it has not been a sufficiently long time in use to determine to what extent it will crack.

A Cock for Boilers in Kitchen Ranges has recently been invented, which, we have no doubt, will soon take the place of all others. It is one of the most ingenious inventions which we have seen for a long time, and completely answers the purpose. It does away with the necessity for supply cisterns on a level with the boilers and for ball-cocks, and is so contrived as to keep the water in the boiler always at the same height, and to prevent a drop of hot water being drawn from the boiler, without a corresponding quantity of cold water being admitted to supply its place. As it will require several engravings to render this invention clear to our readers, we must necessarily defer a fuller account of it till our next Number.

An Oven with revolving Shelves has lately been introduced into some kitchen ranges, for the purpose of preventing the articles placed on the shelves from being burnt on the side next the fire. A spindle passes through both shelves, and through the top of the oven, where it is attached to a common bottle-jack, which is suspended from a hook in the throat of the chimney.

A new Description of Covered Gridiron, for carrying the fumes of broiling meat up the chimney, has recently been used at some of the club-houses.

Our Country Architectural Notices are at present necessarily few: but we trust to our provincial readers to supply what is most interesting, not only in rural and town architecture, but in upholsterers' and ironmongers' shops and show rooms, and in manufactories of articles used in building or furnishing. Any correspondent who may be in doubt as to the extent of the subjects which we embrace, has only to glance over the list on the cover of the portfolio in our titlepage vignette. This beautiful and appropriate ornament was designed by E. B. Lamb, Esq.

Chester.—A noble bridge of one arch over the Dee has been lately completed by Mr. Trubshaw; whose son (a most ingenious young architect and landscape-gardener, and the designer of a very beautiful conservatory and architectural flower-garden at Heath House, near Cheadle) is invited to send us a description and sketches of the bridge.

Durham.—We are warm admirers of freemasonry; and it was with much satisfaction that we observed, in an account of a meeting of the provincial grand lodge, of which the Earl of Durham is grand master, the following passage in His Lordship's address:—"I have ever felt it my duty to support and encourage the principles and practice of freemasonry; because it powerfully developes all social and benevolent affections; because it mitigates without, and diminishes within, the virulence of political and theological controversy; because it affords the only neutral ground on which all ranks and all classes can meet in perfect equality, and associate without degradation or mortification, whether for the purpose of moral instruction or of social intercourse." (*Morn. Chron.*, Jan. 28. 1834.) This is the true modern use of freemasonry. Formerly in England, and still in some countries where civilisation is not far advanced, it had other uses, such as, regulating the wages of workmen, granting protections, exercising hospitality, &c.; but now, freemasonry may be considered as a benevolent system of fellowship.

Kent.—A new pier, on the suspension principle, from the design of Mr. Lamb, is about to be erected at Greenhithe; and, close to that pretty little village, at Ingress Park, the seat of James Harmer, Esq., a beautiful Tudor villa is now building, from the designs and under the direction of Mr. Moring. The stone used in constructing this building is that of old London Bridge, and one of the alcoves, preserved entire, will be erected in the grounds as a monument of that edifice. Near this a piece of ground is laying out in the style of the Regent's Park, with detached villas and gardens; the architect and landscape-gardener employed being Mr. Lamb. The surface of the ground is beautifully varied, commanding extensive views of the Thames and the county of Essex beyond; and, from what we have seen of Mr. Lamb's plan, we anticipate a very interesting specimen of rural and picturesque beauty. Several improvements are carrying on at Canterbury, of which we expect some account from our correspondent there, Mr. Masters; and some others, at Gravesend and Dover, of which we shall be glad to receive notices.

The Rigging-house Wharf, in Woolwich yard, is under repair with a new composition called artificial stone, invented by Mr. Ranger. It is said to be so durable, that it will ultimately supersede the use of bricks and stones, thereby reducing the cost of river walls, &c., upwards of one half. A church, constructed of this new material, capable of accommodating 400 persons, has recently been erected upon the Duke of Northumberland's estate, at a cost of 800*l.* (*Kentish Chronicle*, Feb. 1834.)

We shall feel obliged to any correspondent who will give us some satisfactory particulars respecting this new composition.—*Cond.*

Art. IV. *Retrospective Criticism.*

A Boiler for steaming Food for Cattle, cheaper and more simple than that figured in your *Encyclopædia of Architecture*, under the head of Farmery Furniture, § 1405., and yet equally efficacious, consists of a cast-iron boiler, built over a small furnace, having a vat fitted to the top of the boiler, and the bottom of the vat being pierced with holes to admit of the ascent of the steam among the food to be prepared. In this way, I boil small corn for my saddle-horses, and steam potatoes daily for my farm-horses, at a very trifling expense. — *J. A. Mackenzie. Cowan, by Dingwall, Ross-shire, April* 20. 1833.

We were quite aware of this description of steaming apparatus, which, about 1804, was common in the Lothians. We have described this and other simple modes of steaming cattle-food in our *Encyclopædia of Agriculture*; and we gave the one referred to by our correspondent, in the *Encyclopædia of Architecture* as being very complete. The excellent plans sent by this correspondent, for cottages and farmeries, will be made use of in due time. — *Cond.*

Art. V. *Queries and Answers.*

A Villa for a sloping Site. — "Talking of a sloping site, we are reminded of one which we would like to see Mr. Loudon or some of his friends think of for a design. Suppose a slope to the south, pretty steep too, and somewhat elevated above a public road, the whole exposure covered less or more with trees, and the background to consist of pretty high but unwooded hills, rising in the same slope: what description of villa, containing similar accommodation with *fig.* 1475, would he or they recommend for such a site?" (From a Criticism on our *Encyclop. of Architecture*, in the *Scots Times* for April, 1833.)

We feel much indebted to the editor of the *Scots Times* for the handsome manner in which he noticed the Numbers of our *Encyclopædia* as they successively made their appearance; and we are particularly desirous that some one of our correspondents should supply us with a design suitable for the situation which he describes. — *Cond.*

Camilla Cottage. — Sir, In Madame D'Arblay's *Memoirs of Dr. Burney*, lately published (vol. iii. pp. 259. and 260.), is a description of Camilla Cottage, built at West Hamble, near Norbury Park, the seat of the late amiable and much respected Mr. Lock. This description is as follows: — "The architect had so skilfully arranged its apartments, for use and for pleasure, by investing them with imperceptible closets, cupboards, and adroit recesses, and contriving to make every window offer a fresh and beautiful prospect, that, while its numerous though invisible conveniences gave it comforts which many dwellings on a much larger scale do not possess, its pleasing form and picturesque situation made it a point, though in miniature, of beauty and ornament, from every spot in the neighbourhood whence it could be discovered." Several subscribers to the *Encyclopædia of Architecture* would be obliged if you would give an elevation, ground plan, and description of this (if we may so call it) *rara avis* cottage in your *Architectural Magazine*, if it be compatible with your plans. — ****. *Rugby, Warwickshire, April*, 1833.

A plan, view, and short description of the present state of the cottage referred to, if it be still in existence, will oblige us much. — *Cond.*

Art. VI. *Obituary.*

Died, on May 20. 1833, aged 69, *M. Labarre*, a French architect of great celebrity. His principal works were the column at Boulogne sur Mer and the Exchange at Paris; he also designed the theatre at Bordeaux. M. Labarre was a member of the Legion of Honour; he was also a member of the Institute at Paris. He established a school for architecture; and many of his pupils are now eminent architects in different parts of the Continent.